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SERVICE MANUAL DVD-A500

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DVD HOME THEATER SYSTEM

DVD-A500

SERVICE Manual

DVD HOME THEATER SYSTEM

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1. Precautions

1-1 Safety Precautions

1) Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items:

(1) Be sure that no built-in protective devices are defective or have been defeated during servicing. (1)Protective shields are provided to protect both the technician and the customer. Correctly replace all missing protective shields, including any remove for servicing convenience.
(2)When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fish papers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

(2) Be sure that there are no cabinet openings through which adults or children might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, excessively wide cabinet ventilation slots, and an improperly fitted and/or incorrectly secured cabinet back cover.

(3) Leakage Current Hot Check-With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use a isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1270 (40.7). With the instrument's AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinets, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis.
Any current measured must not exceed 0.5mA. Reverse the instrument power cord plug in the outlet and repeat the test. See Fig. 1-1.
Any measurements not within the limits specified herein indicate a potential shock hazard that must be eliminated before returning the instrument to the customer.

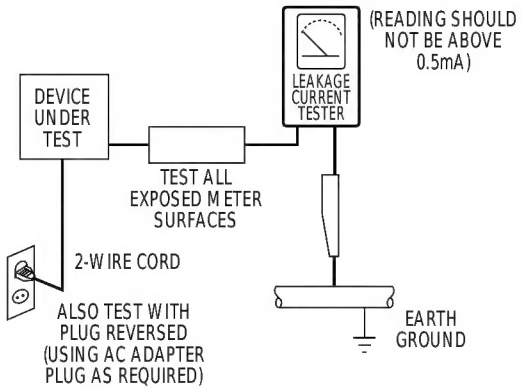

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METER SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

(4) Insulation Resistance Test Cold Check-(1) Unplug the power supply cord and connect a jumper wire between the two prongs of the plug. (2) Turn on the power switch of the instrument. (3) Measure the resistance with an ohmmeter between the jumpered AC plug and all exposed metallic cabinet parts on the instrument, such as screwheads, antenna, control shafts, handle brackets, etc. When an exposed metallic part has a return path to the chassis, the reading should be between 1 and 5.2 megohm. When there is no return path to the chassis, the reading must be infinite. If the reading is not within the limits specified, there is the possibility of a shock hazard, and the instrument must be re-pared and rechecked before it is returned to the customer. See Fig. 1-2.

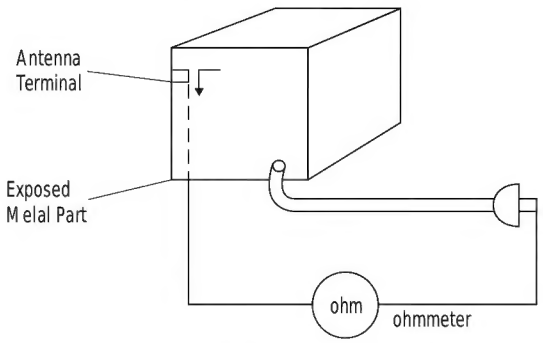


Fig. 1-2 Insulation Resistance Test

2) Read and comply with all caution and safety related notes non or inside the cabinet, or on the chassis.

3) Design Alteration Warning-Do not alter of add to the mechanical or electrical design of this instrument. Design alterations and additions, including but not limited to, circuit modifications and the addition of items such as auxiliary audio output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions will make you, the service, responsible for personal injury or property damage resulting therefrom.

4) Observe original lead dress. Take extra care to assure correct lead dress in the following areas:
(1) near sharp edges, (2) near thermally hot parts (be sure that leads and components do not touch thermally hot parts), (3) the AC supply, (4) high voltage, and (5) antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring, Do not change spacing between a component and the printed-circuit board. Check the AC power cord for damage.

5) Components, parts, and/or wiring that appear to have overheated or that are otherwise damaged should be replaced with components, parts and/ or wiring that meet original specifications.
Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6) Product Safety Notice-Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by shading, an (⚠)or a (⚠)on schematics and parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might created shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2 Servicing Precautions

CAUTION : Before servicing Instruments covered by this service manual and its supplements, read and follow the Safety Precautions section of this manual.

Note : If unforseen circument create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions. Remember: Safety First.

1-2-1 General Servicing Precautions

(1) a. Always unplug the instrument's AC power cord from the AC power source before (1) re-moving or reinstalling any component, circuit board, module or any other instrument assembly, (2) disconnecting any instrument electrical plug or other electrical connection, (3) connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

b. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.

c. Do not apply AC power to this instrument and /or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

d. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

Note : Refer to the Safety Precautions section ground lead last.

(2) The service precautions are indicated or printed on the cabinet, chassis or components. When servicing, follow the printed or indicated service precautions and service materials.

(3) The components used in the unit have a specified flame resistance and dielectric strength.
When replacing components, use components which have the same ratings. Components i-entified by shading, by(⚠) or by (⚠) in the circuit diagram are important for safety or for the characteristics of the unit. Always replace them with the exact replacement components.

(4) An insulation tube or tape is sometimes used and some components are raised above the printed wiring board for safety. The internal wiring is sometimes clamped to prevent contact with heating components. Install such elements as they were.

(5) After servicing, always check that the removed screws, components, and wiring have been installed correctly and that the portion around the serviced part has not been damaged and so on. Further, check the insulation between the blades of the attachment plug and accessible conductive parts.

1-2-2 Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power ON. Connect the insulation resistance meter (500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts(see note) should be more than 1 Megohm.

Note : Accessible conductive parts include metal panels, input terminals, earphone jacks, etc.

1-3 ESD Precautions

Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity.
Such components commonly are called Electrostatically Sensitive Devices(ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

(1) Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

(2) After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

(3) Use only a grounded-tip soldering iron to solder or unsolder ESD devices.

(4) Use only an anti-static solder removal devices. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.

(5) Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.

(6) Do not remove a replacement ESD device from its protective package until immediately before your are ready to install it.(Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).

(7) Immediately before removing the protective materials from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

(8) Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

1-4 Handling the optical pick-up

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

(1) Place a conductive sheet on the work bench (The black sheet used for wrapping repair parts.)

(2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.

(3) Place your hands on the conductive sheet(This gives them the same ground as the sheet.)

(4) Remove the optical pick up block

(5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.

Be sure to put on a wrist strap grounded to the sheet.
Be sure to lay a conductive sheet made of copper etc. Which is grounded to the table.

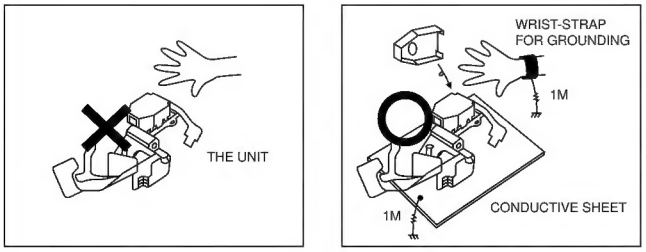


Fig.1-3

(6) Short the short terminal on the PCB, which is inside the Pick-Up ASS'Y, before replacing the Pick-Up. (The short terminal is shorted when the Pick-Up Ass'y is being lifted or moved.)

(7) After replacing the Pick-up, open the short terminal on the PCB.

1-5 Pick-up disassembly and reassembly

1-5-1 Disassembly

1) Remove the power cable.
2) Switch SW3 on deck PCB to "OFF" before removing the FPC.
   (Inserted into Main PCB CN6. See Fig. 1-4)
3) Disassemble the deck.
4) Disassemble the deck PCB.

1-5-2 Reassembly

1) Replace the Pick-up.
2) Assemble the deck PCB.
3) Reassemble the deck.
4) Insert FPC into Main PCB CN6 and switch SW3 on deck PCB to "ON". (See Fig 1-4)

Note : If the assembly and disassembly are not done in correct sequence, the Pick-up may be damaged.

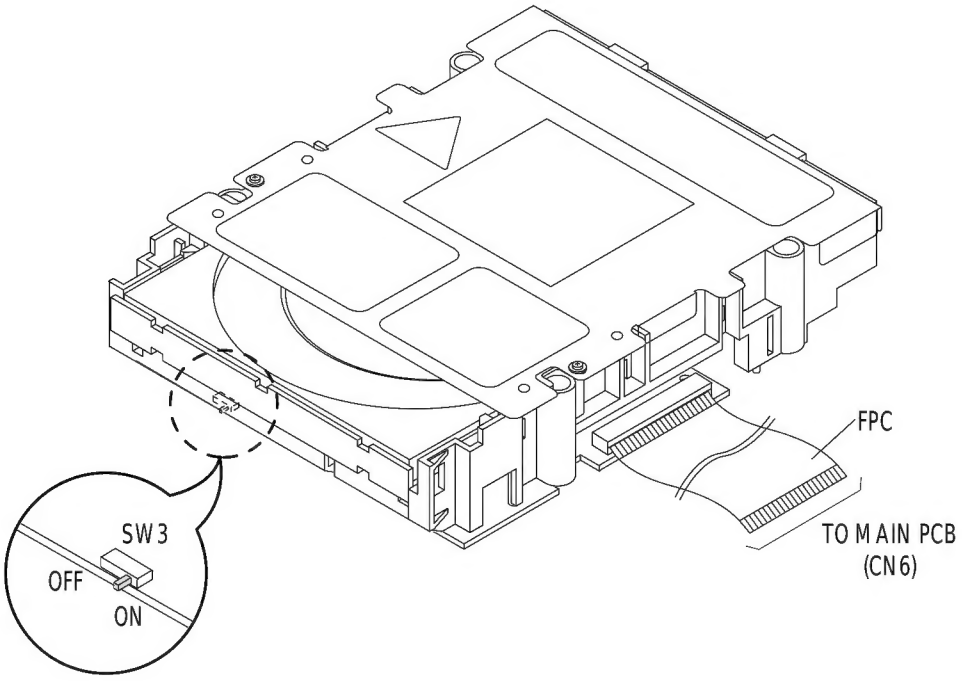
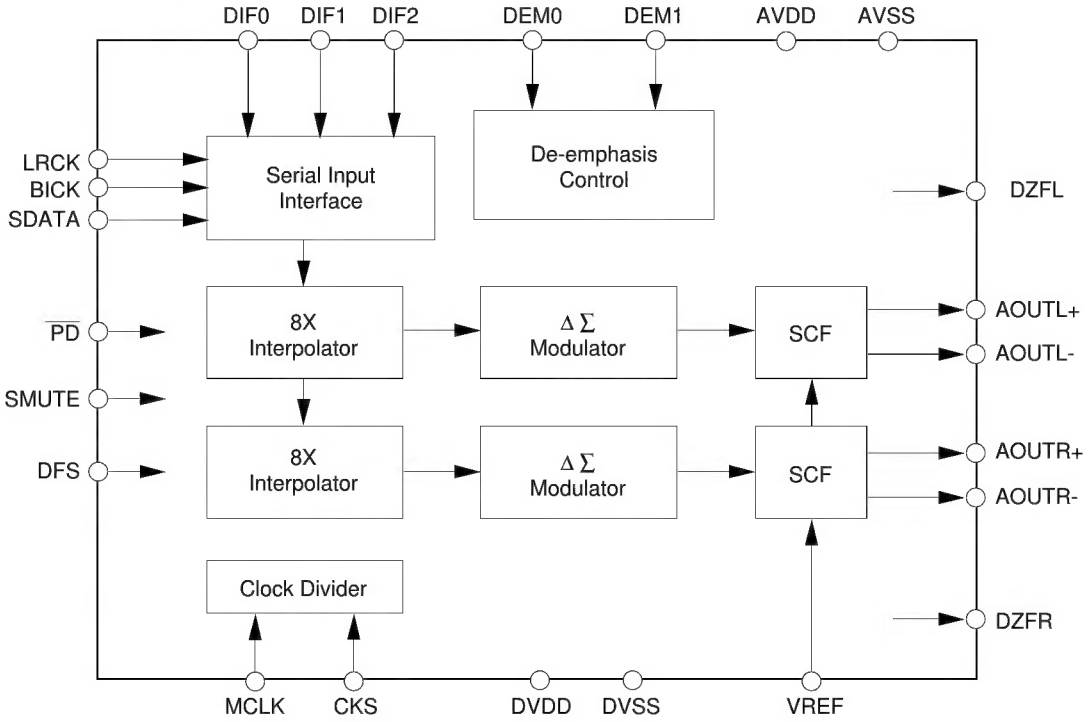


Fig. 1-4

2. Reference Information

2-1 IC Descriptions

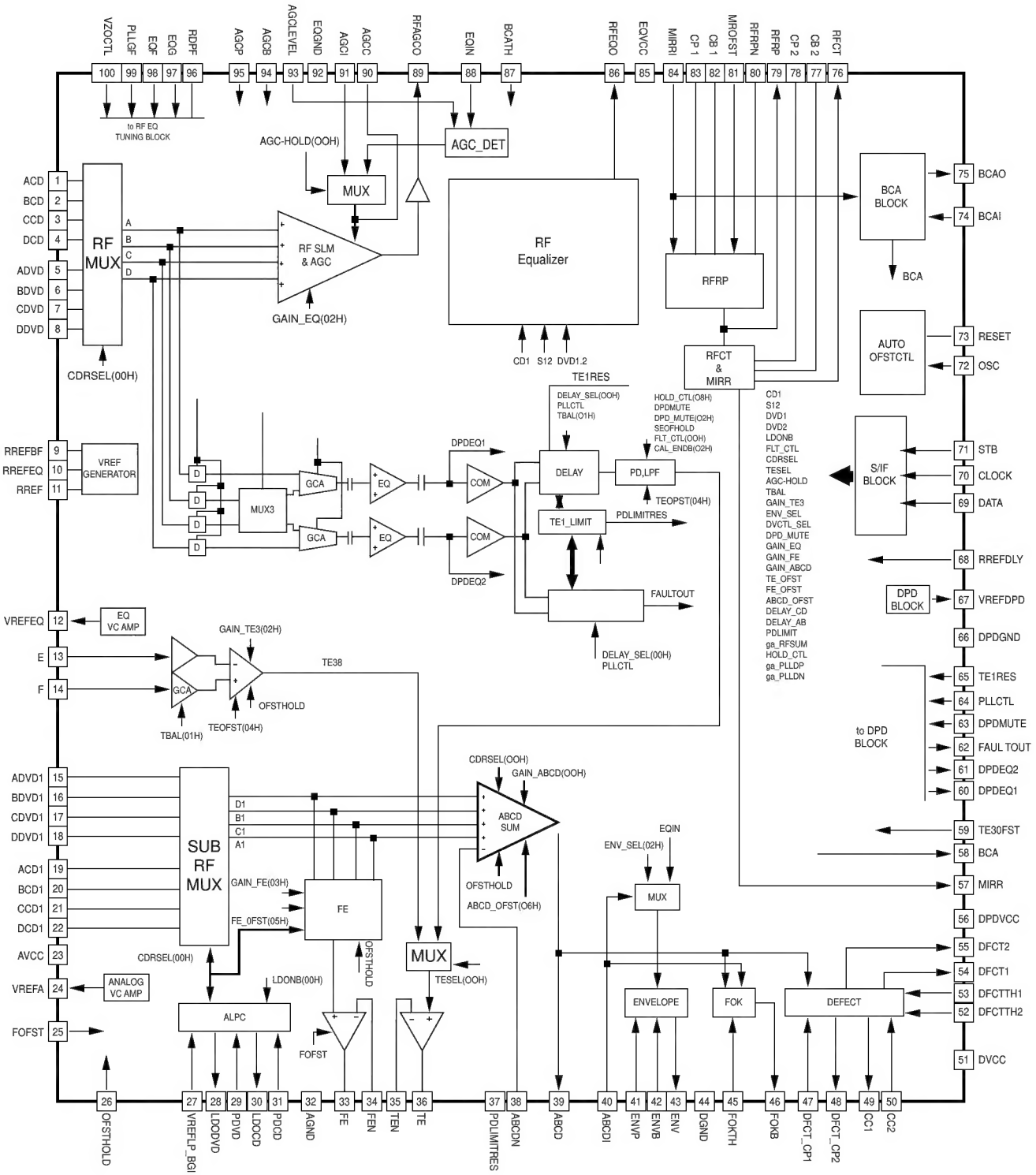
2-1-1 AIC41 (AK4324 ; Digital-to-Analog Converter)



PIN	I/O	NAME	FUNCTION	PIN	I/O	NAME	FUNCTION
1	-	DVSS	Digital ground pin	13	I	DIF0	Digital input format pin
2	I	DVDD	Digital power supply	14	I	DIF1	Digital input format pin
3	I	CKS	Master clock select pin (Internal pull-down pin) Nomal speed "L":MCLK = 256fs, "H":MCLK = 384fs Double speed "L":MCLK = 128fs, "H":MCLK = 192fs	15	I	DIF2	Digital input format pin
4	I	MCLK	Master clock input pin	16	O	AOUTR-	Rch negative analog output pin
5	I	$\overline{PD}$	Power-Down mode pin. When at "L", the AK4324 is in power-down and is held in rest. The AK4324 should always be reset upon power-pin	17	O	AOUTR+	Rch positive analog output pin
6	I	BICK	Audio serial data input pin 64fs clock is recommended to be input on this pin	18	O	AOUTL-	Lch negative analog output pin
7	I	SDATA	Audio serial data input pin 2's complement MSB-first data is input on this pin.	19	O	AOUTL+	Lch positive analog output pin
8	I	LRCK	L/R clock pin.	20	-	AVSS	Analog ground pin
9	I	SMUTE	Soft mute pin When this pin goes "H", soft mute cycle is initiated When returning "L", the output mute releases.	21	O	VREF	Voltage reference input pin
10	I	DFS	Double speed sampling mode pin (Internal pull-down pin) "L":normal speed, "H":double speed	22	O	AVDD	Analog power supply pin.
11	I	DEM0	De-emphasis frequency select pin	23	O	DZFR	Rch zero input detect pin
12	I	DEM1	De-emphasis frequency select pin	24	O	DZFL	Lch zero input detect pin

Note : Allinput pins except internal pull-down pins should not be left floating.

2-1-2 RIC1 (KS1461 ; RF)



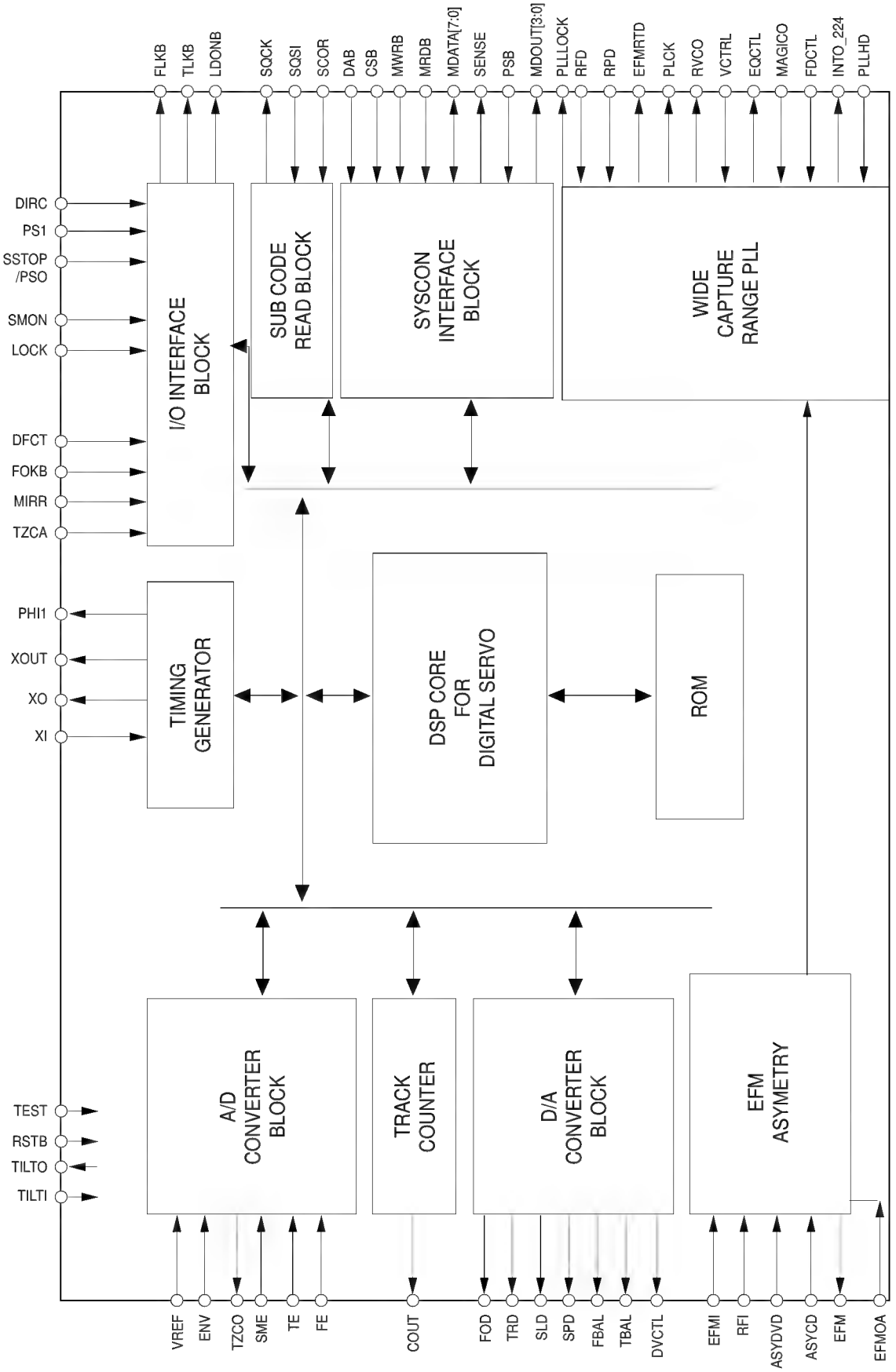
PIN	NAME	I/O	FUNCTION
1	ACD	I	CD optical main beam A AC coupling input port for RF
2	BCD	I	CD optical main beam B AC coupling input port for RF
3	CCD	I	CD optical main beam C AC coupling input port for RF
4	DCD	I	CD optical main beam D AC coupling input port for RF
5	ADVD	I	DVD optical main beam A AC coupling input port for RF
6	BDVD	I	DVD optical main beam B AC coupling input port for RF
7	CDVD	I	DVD optical main beam C AC coupling input port for RF
8	DDVD	I	DVD optical main beam D AC coupling input port for RF
9	RREFBF	-	RF AMP I/O buffer bias resistance connection port
10	RREFEQ	-	RF EQ bias resistance connection port
11	RREF	-	Analog block bias resistance connection port
12	VREFEQ	O	CAP connection port for RF EQ center voltage
13	E	I	CD optical sub beam E input port for SERVO
14	F	I	CD optical sub beam F input port for SERVO
15	ADVD1	I	DVD optical main beam A input port for SERVO
16	BDVD1	I	DVD optical main beam B input port for SERVO
17	CDVD1	I	DVD optical main beam C input port for SERVO
18	DDVD1	I	DVD optical main beam D input port for SERVO
19	ACD1	I	CD optical main beam F input port for SERVO
20	BCD1	I	CD optical main beam F input port for SERVO
21	CCD1	I	CD optical main beam F input port for SERVO
22	DCD1	I	CD optical main beam F input port for SERVO
23	AVCC	P	Power voltage input port for analog part
24	VREFA	-/O	CAP connection port for analog part center voltage, Use at other block
25	FOFST	O	CAP connection port for focus auto offset (OPEN)
26	OFSTHOLD	I	ON/OFF connection port for auto offset block (L : auto offset adjustment H : serial offset adjustment)
27	VREFLP_BGI	I	BANDGAP voltage input port for ALPC
28	LDODVD	O	DVD optical laser diode driving voltage output port
29	PDDVD	I	DVD optical laser monitor diode voltage input port
30	LDOCD	O	CD optical laser diode driving voltage output port
31	PDCD	I	CD optical laser monitor diode voltage input port
32	AGND	P	Power GND port for analog part
33	FE	O	FE AMP output port

PIN	NAME	I/O	FUNCTION
34	FEN	I	FE Input port for AMP GAIN setting
35	TEN	I	Input port for TE AMP GAIN setting
36	TE	O	TE AMP output port
37	PDLIMTRES	-	Bias resistance port for PDLIMIT
38	ABCDN	I	Input port for ABCD AMP GAIN setting
39	ABCD	O	ABCD AMP output port
40	ABCDI	I	ABCD AC coupling input port for SERVO monitor
41	ENVP	-	Peak hold time constant setting RC connection port for RF envelope detect
42	ENVB	-	Bottom hold time constant setting RC connection port for RF envelope detect
43	ENV	O	RF envelope detect output port
44	DGND	P	Power GND input port for digital circuit
45	FOKTH	I	Focus OK comparing level input port
46	FOKB	O	Focus OK comparator output port (L: FOCUS OK)
47	DFCT_CP1	-	Peak hold time constant connection port SERVO defect max. time setting
48	DFCT_CP2	-	Peak hold time constant connection port PLL defect min. time setting
49	CC1	O	Output port of peak detector for defect
50	CC2	I	AC coupling input port for defect
51	DVCC	P	Power voltage input port for digital circuit
52	DVCTH2	-	Resistance connection port for PLL defect comparating level setting
53	DFCTH1	-	Resistance connection port for SERVO defect comparating level setting
54	DFCT1	O	Defect output port for SERVO
55	DFCT2	O	Defect output port for PLL
56	DPDVCC	P	Power voltage input port for DPD TE
57	MIRR	O	Mirror output port
58	BCA	O	BCA output port
59	TE3OFST	-	Resistance connection port for 3BTE offset
60	DPDEQ1	O	DPD EQ (A+C) output port
61	DPDEQ2	O	DPD EQ (B+D) output port
62	FAULTOUT	O	DPD defect waveform output port (MONITOR)
63	DPDMUTE	I	DPD TE MUTE control port (H : MUTE)
64	PLLCTL	I	DPD TE PLL variable input port

PIN	NAME	I/O	FUNCTION
65	TE1RES	I	DPD TE PLL variable bias resistance
66	DPDGND	P	Power GND input port for DPD TE
67	VREFDPD	O	CAP connection port for DPD TE center
68	RREFDLY	-	Bias resistance connection port for delta block
69	DATA	I	Data input port
70	CLOCK	I	Clock input port
71	STB	I	Data enable input port
72	OSC		OSC time constant input port for auto offset block
73	RESET	I	Reset input port for auto offset block (L : RESET)
74	BCAI	I	BCA FILTER1
75	BCAO	O	BCA FILTER2
76	RFCT	O	RF ripple center voltage output port for mirror
77	CB2	-	Bottom hold time constant RC connection port for RFCT generation
78	CP2	-	Peak hold time constant RC connection port for RFCT generation
79	RFRP	O	RF ripple AMP output port for mirror
80	RFRPN	I	RF ripple AMP GAIN input port for mirror
81	MROFST	I	RF ripple offset control port for mirror
82	CB1	-	Bottom hold time constant RC connection port for RFCT generation
83	CP1	-	Peak hold time constant RC connection port for RFCT generation
84	MIRRI	I	Input port for MIRR signal generation
85	EQVCC	P	Power voltage input port for RF EQ
86	RFEQO	O	RF EQ output port
87	BCATH	I	BCA comparating level control port
88	EQN	I	RFAGCO input port for RF EQ
89	RFAGCO	O	RF AGC AMP output port
90	AGCC	-	AGC time constant CAP connection port
91	AGCI	I	When AGC is "HOLD", AGC voltage input port
92	EQGND	P	Power GND input port for RF EQ
93	AGCLEVEL	I	AGC level control voltage input port
94	AGCB	-	RF bottom hold time constant RC connection port for RF AGC
95	AGCP	-	RF peak hold time constant RC connection port for RF AGC

PIN	NAME	I/O	FUNCTION
96	RDPF	-	Bias resistance connection port for RF EQ frequency setting
97	EQG	I	RF EQ boost gain control voltage input port
98	EQF	I	RF EQ peak frequency control voltage input port
99	PLLGF	I	RF EQ boost, peak frequency gain control port corresponding to wideband PLL (PLLG, PLLF resistance internal design)
100	VZDCTL	I	RF EQ control port (When No. PLLG isn't adjusted, apply DC CTL voltage.)

2-1-3 SIC1 (KS1452 ; Digital Servo)



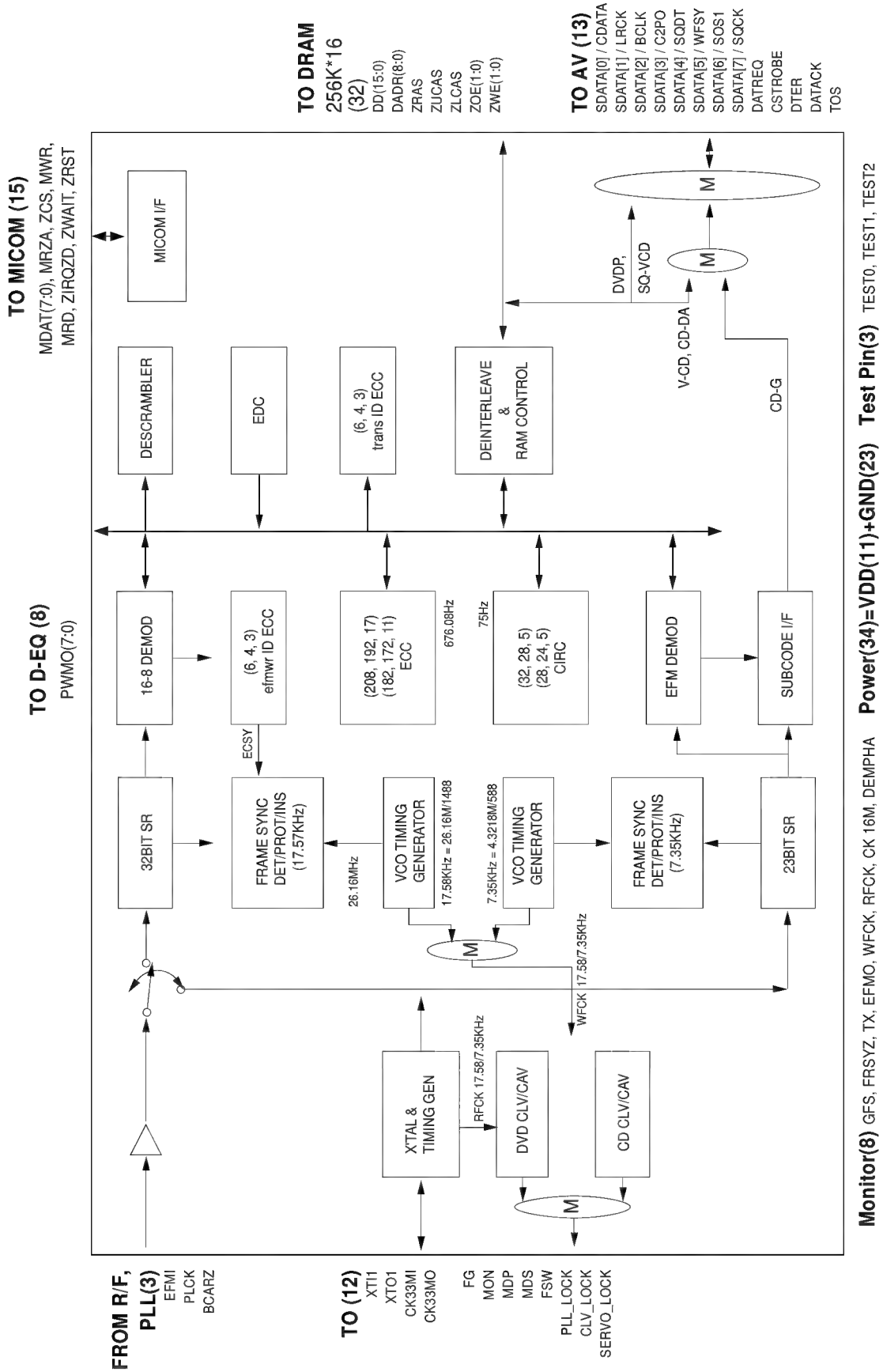
PIN NAME		I/O	FUNCTION
1	MDOUT3	O	Mode data3 out controlled by micom
2	SSTOP/PSO	I	Limit switch/sled position sensor input pin0
3	PS1	I	Sled motor position sensor input pin 1
4	TEST	I	Test pin (L : normal H : test)
5	CCUT	O	Counter clock
6	FLKB	O	Focus servo lock signal output pin
7	TLKB	O	Tracking servo lock signal output pin
8	PSB	I	0 : 1BIT 1 : 8BIT
9	RSTB	I	System reset signal input pin
10	CSB	I	Micom chip select pin
11	DAB	I	Micom data/address select pin
12	MWRB	I	Micom write clock signal input pin
13	MRDB	I	Micom read clock signal input pin
14	MDATA0	I/O	Micom data pin 0
15	MDATA1	I/O	Micom data pin 1
16	MDATA2	I/O	Micom data pin 2
17	MDATA3	I/O	Micom data pin 3
18	MDATA4	I/O	Micom data pin 4
19	MDATA5	I/O	Micom data pin 5
20	MDATA6	I/O	Micom data pin 6
21	MDATA7	I/O	Micom data pin 7
22	SENSE	O	Internal status monitor pin
23	DVDD	P	Servo logic & ROM VDD power supply pin
24	XI	I	System clock signal input pin
25	XO	O	System clock signal output pin
26	XOUT	O	Clock out (33.9888MHz) to DSP
27	DVSS	P	Servo logic & ROM VSS power supply pin
28	SQCK	O	Clock output pin for subcode data read
29	SQSI	I	Subcode data input pin
30	SCOR	I	Timing detection input pin for subcode data read
31	SMON	I	Motor ON signal input pin
32	LOCK	I	Lock signal input pin
33	DIRC	I	Direct jump control (for 1 track jump)

PIN NAME		I/O	FUNCTION
34	FOKB	I	Focus OK signal input pin
35	FDCTL	I	PLL frequency detect control input pin
36	LDONB	O	Laser diode ON signal output pin
37	DFCT	I	Defect Detection signal input pin
38	MIRR	I	Mirror signal input pin
39	PLLHD	I	PLL hold signal from micom
40	INTO_224	O	Servo interrupt monitor pin
41	PVDD	P	PLL logic block VDD power supply pin
42	PLCK	O	PLCK
43	PLLLOCK	O	Frequency lock detect output (H : Lock L : Unlock)
44	EFMRTD	O	Latched EFM output signal
45	PVSS	P	PLL logic block VSS power supply pin
46	RVCO	I	Resistor pin for VCO GAIN
47	RFD	I	Gain adjust resister for frequence detector
48	RPD	I	Gain adjust resister for phase detector
49	VCTL	I	Control voltage for VCO
50	MAGICO	I	Input for hysteresis control of FD output (for test)
51	EFMOA	I	EFM offset adjustment pin
52	TZCO	O	Tracking zero cross output pin
53	SVDD	P	Servo CPU VDD power supply pin
54	EQCTL	O	EQ control signal
55	EFMI	I	EFM signal for test
56	EFMO	O	EFM signal
57	LPFDVD	I	Asymmetric input signal for DVD
58	LPFCD	I	Asymmetric input signal for CD
59	RFI	I	RF input signal
60	SVSS	P	Servo CPU VSS power supply pin
61	AVSS	P	Analog block VSS power supply pin
62	SME	I	Spindle error input pin
63	VREF	I	Reference voltage input pin
64	TE	I	Tracking error signal input pin

PIN NAME		I/O	FUNCTION
65	FE	I	Focus error signal input pin
66	ENV	I	RF envelope input pin
67	TILTI	I	Tilt in (reserved)
68	AVDD	P	Analog block VDD power supply pin
69	TILTO	O	Tilt out (reserved)
70	DVCTL	O	Depth variation control signal output pin
71	TBAL	O	Tracking balance signal output pin
72	FBAL	O	Focus balance signal output pin

PIN NAME		I/O	FUNCTION
73	SLD	O	Sled motor drive signal output pin
74	SPD	O	Spindle motor drive signal output pin
75	FCD	O	Focus actuator drive signal output pin
76	TRD	O	Tracking actuator drive signal output pin
77	TZCA	I	TE signal for tracking zero cross input pin
78	MDOUT0	O	Mode data 0 out controlled by micom
79	MDOUT1	O	Mode data 1 out controlled by micom
80	MDOUT2	O	Mode data 2 out controlled by micom

2-1-4 DIC1 (KS1453 ; DVD Data Processor)



PIN	NAME	FUNCTION
1	DVSS	Digital GND (0V)
2	ZCS_IN	Chip select (Active Low)
3	MRZA_IN	Micom register select (L->Register H->Data)
4	DVSS	Digital GND (0V)
5	MDAT7_BI	Micom data bus
6	MDAT6_BI	Micom data bus
7	MDAT5_BI	Micom data bus
8	MDAT4_BI	Micom data bus
9	MDAT3_BI	Micom data bus
10	MDAT2_BI	Micom data bus
11	MDAT1_BI	Micom data bus
12	MDAT0_BI	Micom data bus
13	DVDD	Digital power (+5V)
14	XTI_IN	System clock input for 26.16 MHz
15	XTO_OUT	System clock output for 26.16 MHz
16	DVSS	Digital GND (0V)
17	DD15_BI	DRAM data bus
18	DD0_BI	DRAM data bus
19	DD14_BI	DRAM data bus
20	DD1_BI	DRAM data bus
21	DVSS	Digital GND (0V)
22	DD13_BI	DRAM data bus
23	DD2_BI	DRAM data bus
24	DD12_BI	DRAM data bus
25	DD3_BI	DRAM data bus
26	DVDD	Digital power (+5V)
27	DD11_BI	DRAM data bus
28	DD4_BI	DRAM data bus
29	DD10_BI	DRAM data bus
30	DD5_BI	DRAM data bus
31	DVSS	Digital GND (0V)
32	DD9_BI	DRAM data bus

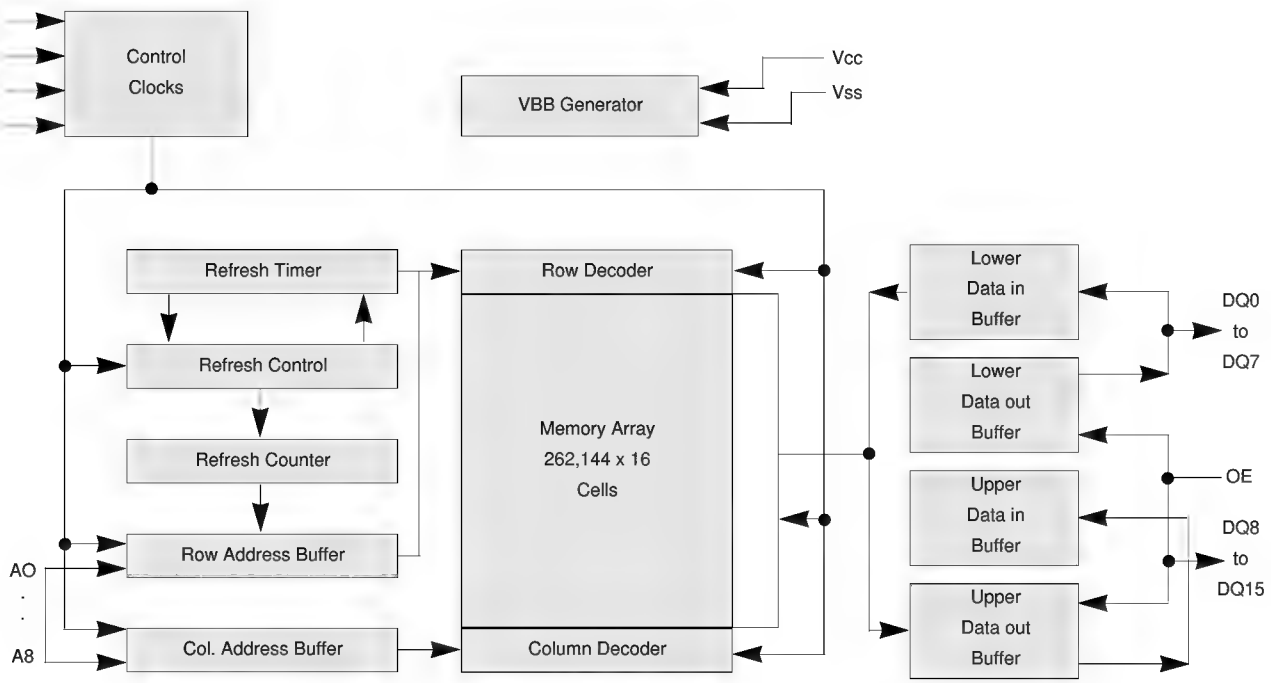
PIN	NAME	FUNCTION
33	DD6_BI	DRAM data bus
34	DD8_BI	DRAM data bus
35	DD7_BI	DRAM data bus
36	DVSS	Digital GND (0V)
37	ZLCAS_OUT	DRAM row column address strobe
38	ZUCAS_OUT	DRAM upper column address strobe
39	ZWE1_OUT	DRAM write enable 1 (8M ONLY)
40	ZWE0_OUT	DRAM write enable 0 (4M, 8M, 16M)
41	ZOE1_OUT	DRAM output enable 1 (16M, ———, 16M)
42	DVDD	Digital power (+5V)
43	ZOE0_OUT	DRAM output enable 0
44	ZRAS_OUT	DRAM row address strobe
45	DADR8_OUT	DRAM address bus
46	DADR7_OUT	DRAM address bus
47	DVSS	Digital GND (0V)
48	DADR0_OUT	DRAM address bus
49	DADR6_OUT	DRAM address bus
50	DADR1_OUT	DRAM address bus
51	DADR5_OUT	DRAM address bus
52	DADR2_OUT	DRAM address bus
53	DADR4_OUT	DRAM address bus
54	DADR3_OUT	DRAM address bus
55	DVSS	Digital GND (0V)
56	DVSS	Digital GND (0V)
57	TOS_OUT	Top of sector
58	DATACK_OUT	Data acknowledge signal output
59	DVDD	Digital power (+5V)
60	SDATA0_OUT	DVD data/CD data bitstream output
61	SDATA1_OUT	DVD data/CD data L/R clock (LRCK)
62	SDATA2_OUT	DVD data/CD data bit clock (BLCK)
63	SDATA3_OUT	DVD data/CD data error flag (C2P0)
64	SDATA4_OUT	DVD data/Sub code serial data (SQDT)
65	SDATA5_OUT	DVD data/Sub code frame sink (WFSY)

PIN	NAME	FUNCTION
66	SDATA6_OUT	DVD data/Sub code block sink (S0S1)
67	SDATA7_BI	DVD data/Sub code serial clock (SQCK)
68	DVSS	Digital GND (0V)
69	CSTROBE_OUT	Data strobe (clock) output
70	DATREQ_IN	Data request from A/V decoder or ROM decoder
71	DTER_OUT	DVD data error output
72	DVSS	Digital GND (0V)
73	PWM07_OUT	PWM output signal
74	PWM06_OUT	PWM output signal
75	PWM05_OUT	PWM output signal
76	PWM04_OUT	PWM output signal
77	DVDD	Digital power (+5V)
78	PWM03_OUT	PWM output signal
79	PWM02_OUT	PWM output signal
80	PWM01_OUT	PWM output signal
81	PWM00_OUT	PWM output signal
82	DVSS	Digital GND (0V)
83	DVSS	Digital GND (0V)
84	DVSS	Digital GND (0V)
85	DVDD	Digital power (+5V)
86	DVDD	Digital power (+5V)
87	DVSS	Digital GND (0V)
88	DVSS	Digital GND (0V)
89	DVSS	Digital GND (0V)
90	DVSS	Digital GND (0V)
91	FRSYZ_OUT	Frame sync out
92	TX_OUT	Digital out
93	GFS_OUT	Good frame sync detection result output ("H" active)
94	DVSS	Digital GND (0V)
95	CK33MI_IN	System clock input for 33.8688MHz
96	CK33MO_OUT	System clock output for 33.8688MHz
97	DVSS	Digital GND (+5V)

PIN	NAME	FUNCTION
98	TEST0_IN	Test mode setting port
99	TEST1_IN	Test mode setting port
100	TEST2_IN	Test mode setting port
101	EFMO_OUT	EFM out
102	WFCK_OUT	Write frame pulse
103	RFCK_OUT	Reference frame pulse
104	PLCK_IN	Phase locked clock
105	DVSS	Digital GND (0V)
106	PLLLOCK_OUT	Lock signal for PLL
107	CLVLOCK_OUT	Lock signal for CLV
108	SERLOCK_OUT	Lock signal for SERVO
109	MDP_OUT	Spindle motor phase control signal (3-state)
110	MDS_OUT	Spindle motor speed control signal (3-state)
111	DVSS	Digital GND (0V)
112	DVSS	Digital GND (0V)
113	MON_OUT	Spindle motor ON/OFF control output
114	FG_IN	Reference signal for CAV
115	PSW_OUT	Spindle motor output filter conversion output (3-state)
116	EFMI_IN	EFM/EFM+signal input
117	DVDD	Digital power (+5V)
118	DVDD	Digital power (+5V)
119	DVDD	Digital power (+5V)
120	CK16M_OUT	2분주clock of CK33M/16.934MHz
121	DEMPHA_OUT	When DEEMPHASIS is ON, "HIGH".
122	BCARZ_IN	BCA input signal
123	DVSS	Digital GND (0V)
124	ZRST_IN	Hardware reset active low
125	ZWAIT_OUT	Micom read/write access wait ("L" wait)
126	ZIRQ2D_OUT	Interrupt request from micom
127	MRD_IN	Micom read strobe (schmidt trigger)
128	MWR_IN	Micom write strobe (schmidt trigger)

2-1-5 DIC2 (KM416C254BJ-6 ; CMOS DRAM)

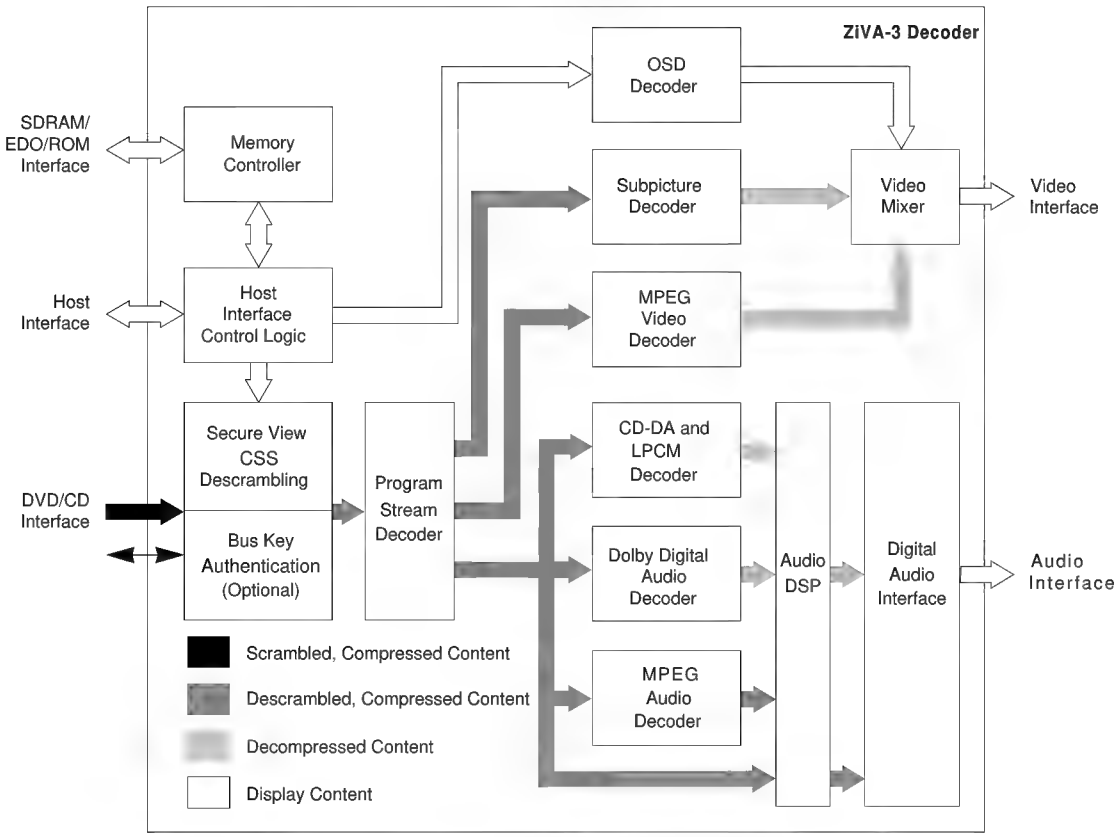
BLOCK DIAGRAM



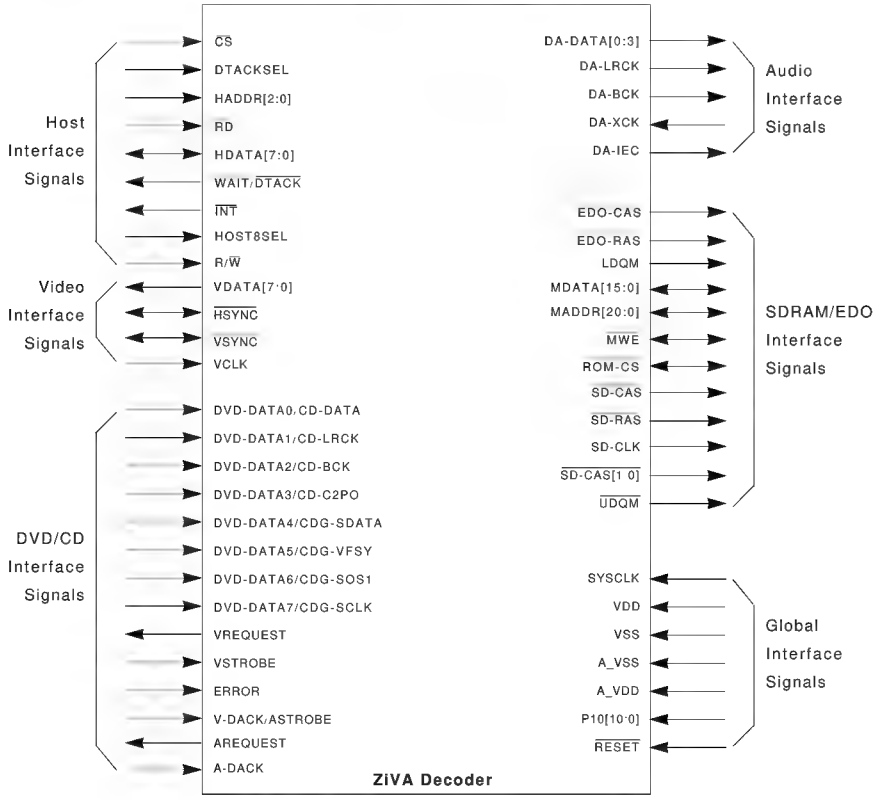
NAME	FUNCTION
A0-A8	Address Inputs
DQ0-15	Data in/Out
VSS	Ground
$\overline{RAS}$	Row Address Strobe
$\overline{UCAS}$	Upper Column Address Strobe
$\overline{LCAS}$	Lower Column Address Strobe
$\overline{W}$	Read/Write Input
$\overline{OE}$	Data Output Enable
V_{CC}	Power (+5V)
	Power (+3.3V)
N.C	No Connection

2-1-6 VIC1 (ZiVA-3 ; Audio/Video Decoder)

BLOCK DIAGRAM

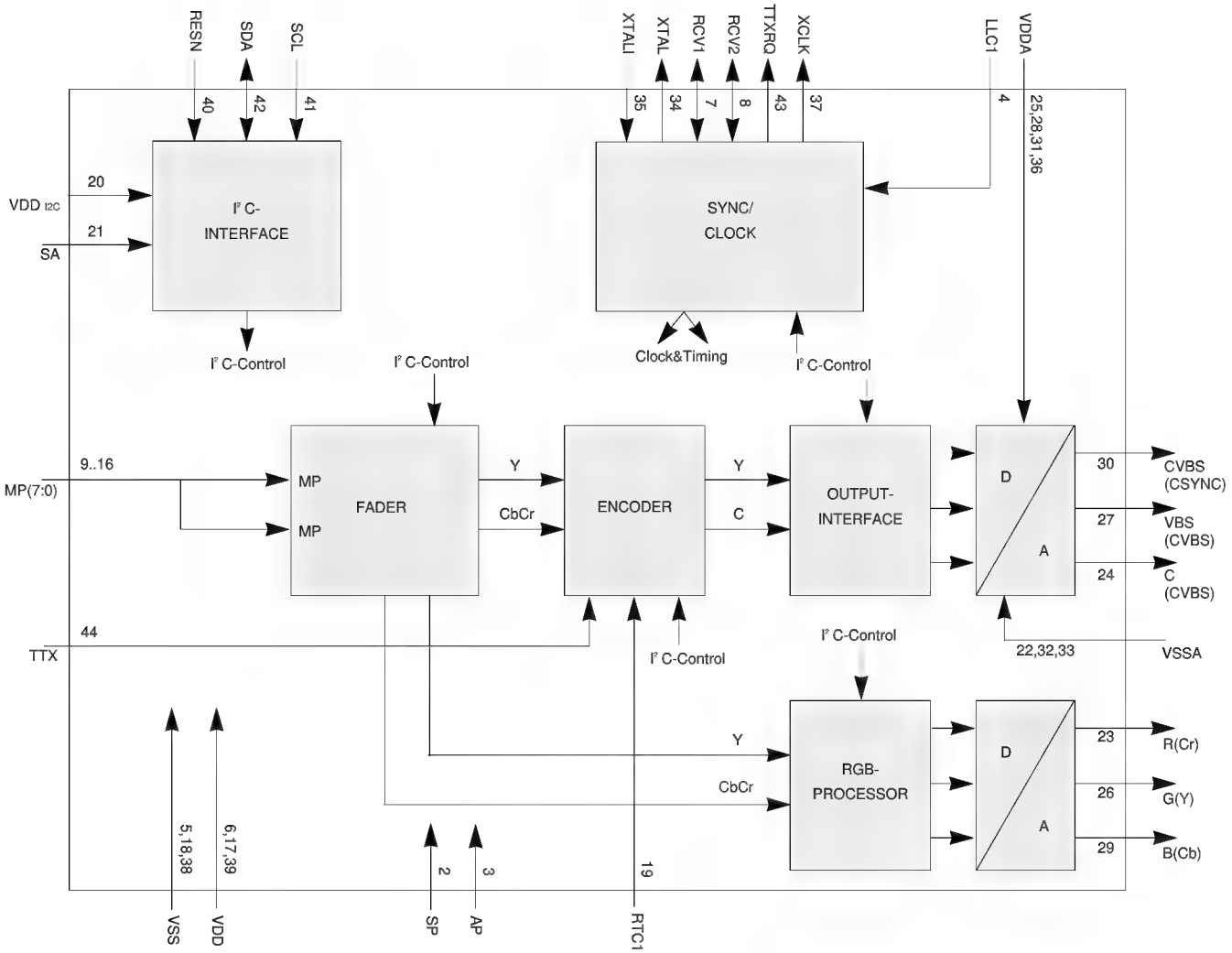


LOGIC DIAGRAM



2-1-7 TIC1 (SAA7128 ; Digital Video Encoder)

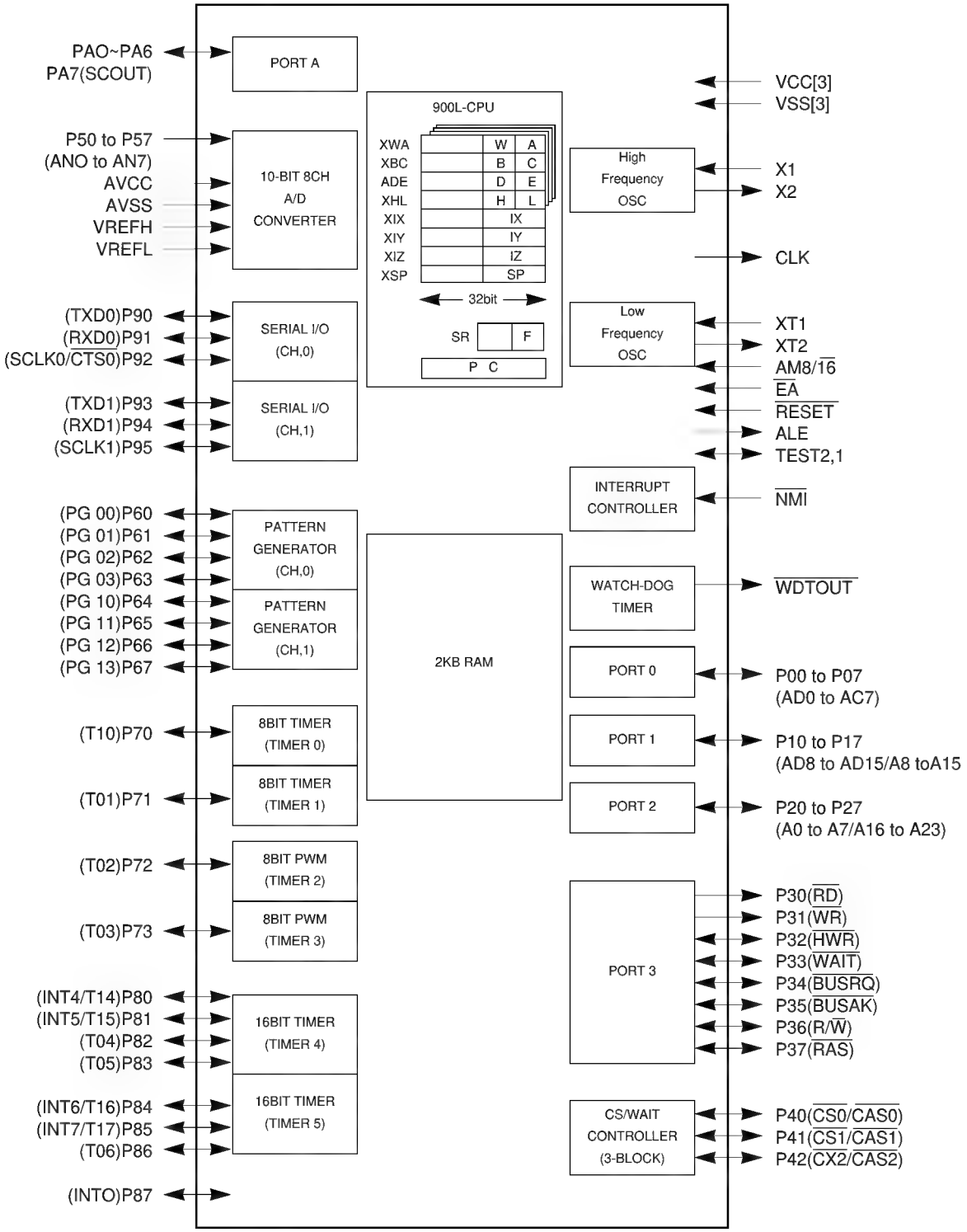
BLOCK DIAGRAM



PIN	I/O	NAME	FUNCTION
1		res.	Reserved pin, do not connect
2	I	SP	Test Pin;connected to digital ground for normal operation
3	I	AP	Test Pin;connected to digital ground for normal operation
4	I	LLC1	Line-Locked Clock input;this is the 27 M Hz master clock
5	I	V_{SS1}	Digital supply ground 1
6	I	V_{DD1}	Digital supply 1
7	I/O	RCV1	Raster Contral 1 for video port. This pin receives/provides a VS/FS/FSEQ signal.
8	I/O	RCV2	Raster Contral 2 for video port. This pin provides an HS pulse of programmable length or receives an HS pulse.

PIN	I/O	NAME	FUNCTION
9	I	MP7	Double speed 54 MHzMPEG port. It is an input for "CCIR 656" style multiplexed Cb, Y, Cr data. Data are sampled on the rising and falling clock edge;data sampled on the risting edge then are sent to the encoding part of the device, data sampled on the falling edge are sent to the RGB part of the device. (or vice verse, depending on programming)
10	I	MP6	
11	I	MP5	
12	I	MP4	
13	I	MP3	
14	I	MP2	
15	I	MP1	
16	I	MP0	
17	I	V_{DD2}	Digital supply voltage 2
18	I	V_{SS2}	Digital ground 2
19	I	RTCI	Real Time Control input. If the LLC1 clock is provided by an SAA7111 or SAA7151B, RTCI should be connected to the RTCO pin of the respective decoder to improve the signal quality.
20	I	VDD_{12C}	Sense input for 12C bus voltage;connect to 12C bus supply
21	I	SA	Select 12C address; low selects slave address 88h, high selects slave address 8Ch.
22	I	V_{SSA1}	Analog ground 1 for Red (Cr), C(CVBS), Green(Y) outputs
23	O	R(Cr)	Analog output of Red (Cr)signal
24	O	C	Analog output of Chrominance (CVBS) signal
25	I	V_{DDA1}	Analog supply voltage 1 for R(Cr), C(CVBS) outputs
26	O	G(Y)	Analog output of Green(Y) signal
27	O	VBS	Analog output of VBS (CVBS) signal
28	I	V_{DDA2}	Analog supply voltage 2 for VBS(CVBS), Green(Y) outputs
29	O	B(Cb)	Analog output of Blue(Cb) signal
30	O	CVBS	Analog output of CVBS(CSYNC) signal
31	I	V_{DDA3}	Analog supply voltage 3 for Blue(Cb)and CVBS(CSYNC), outputs
32	I	V_{SSA2}	Analog ground 2 for VBS (CVBS), Blue(Cb), CVBS(CSYNC)outputs
33	I	V_{SSA3}	Analog ground 3 for the DAC reference ladder and the oscillator
34	O	XTAL	Crystal oscillator output
35	I	XTAL1	Crystal oscillator input; if the oscillator is not used, this pin should be connected to ground.
36	I	V_{DDA4}	Analog supply voltage 4 for the DAC reference ladder and the oscillator
37	O	XCLK	Clock output of the crystal oscillator
38	I	V_{SS3}	Digital supply ground 3
39	I	V_{DD3}	Digital supply 3
40	I	RESN	Reset input, active LOW. After reset is applied, all digital I/Os are in input mode; PAL-Blackburst on CVBS, VBS and C;RGB outputs set to lowest voltage. The 12C-bus receiver waits for the START condition.
41	I	SCL	12C serial clock input
42	I/O	SDA	12C serial data input/output
43	O	TTXRQ	Teletext Request output, indicating when text bits are requested
44	I	TTX	Teletext bit stream input

2-1-8 MIC1 (TMP93CM41F ; Main Micom)



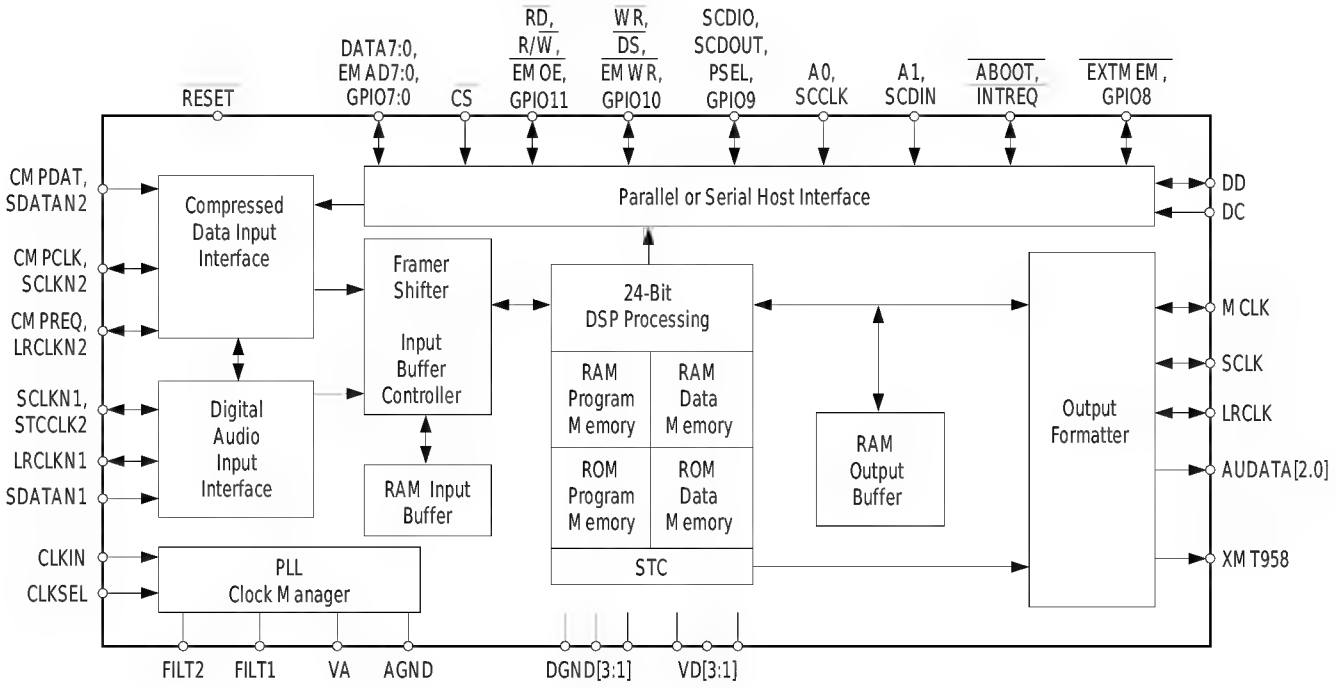
No.	PORT NAME	ASSIGNED NAME	I/O	FUNCTION
1	VREFL	GND	I	A/D Ref input (L)
2	AVss	AGND	-	A/D GND input
3	AVcc	AVCC	-	A/D VCC input
4	/NMI	-	I	Non-maskable interrupt
5	P70	ZRST	O	DSP H/W reset
6	P71	MCK_SEL	O	Master clock select
7	P72	ZIVA_RST	O	AV-DEC H/W reset
8	P73	LED	O	Open/close blinking
9	/INT4	DVDINT	I	Interrupt from AV-DEC
10	INT5	SRQ	I	Interrupt from front micom
11	P82	OPEN	I	Open switch
12	P83	CLOSE	I	Close switch
13	/INT6	FGINT	I	Interrupt from spindle motor FG
14	INT7	-	I	
15	P86	RRQ	O	Request to front micom
16	INT0	ZINT	I	Interrupt from DSP
17	TXD0	RXD	O	Serial data output
18	RXD0	TXD	I	Serial data input
19	SCLK0	SCLK	I	Serial data clock
20	TXD1	MD	O	RF control data
21	094	STB	I/O	RF data latch
22	SCLK1	MC	O	RF control clock
23	AM8/16	AM8	I	Address mode (H: 8 bit mode)
24	CLK	CLK	O	Clock output (System clock÷2)
25	Vcc	VCC	-	
26	Vss	GND	-	GND
27	X1	X1	I	High frequency OSC in
28	X2	X2	O	High frequency OSC out
29	/EA	/EA	I	External access CS41/CS40
30	/RESET	/MRST	I	Master reset from FRONT

No.	PORT NAME	ASSIGNED NAME	I/O	FUNCTION
31	P96	XT1	O	-
32	P97	XT2	O	-
33	TEST1	TEST1	-	Test pin. connect to TEST2
34	TEST2	TEST2	-	Test pin. connect to TEST1
35	PA0	ECK	O	EEPROM CLOCK
36	PA1	EDT	I/O	EEPROM DATA I/O
37	PA2	EWC	O	EEPROM WRITE PROTECT
38	PA3	-	O	
39	PA4	-	O	
40	PA5	-	O	
41	PA6	-	O	
42	PA7	-	O	
43	ALE	ALE	O	Address latch enable
44	Vcc	VCC	-	
45	AD0	HAD0	I/O	Address/Data 0
46	AD1	HAD1	I/O	Address/Data 1
47	AD2	HAD2	I/O	Address/Data 2
48	AD3	HAD3	I/O	Address/Data 3
49	AD4	HAD4	I/O	Address/Data 4
50	AD5	HAD5	I/O	Address/Data 5
51	AD6	HAD6	I/O	Address/Data 6
52	AD7	HAD7	I/O	Address/Data 7
53	A8	HA8	O	Address 8
54	A9	HA9	O	Address 9
55	A10	HA10	O	Address 10
56	A11	HA11	O	Address 11
57	A12	HA12	O	Address 12
58	A13	HA13	O	Address 13
59	A14	HA14	O	Address 14
60	A15	HA15	O	Address 15

No.	PORT NAME	ASSIGNED NAME	I/O	FUNCTION
61	/WDTOUT	WDTOUT	O	Watch dog timer output
62	VSS	GND	-	
63	Vcc	VCC	-	
64	A16	HA16	O	Address 16
65	A17	HA17	O	Address 17 (AV-DECODER)
66	A18	HA18	O	Address 18 (Data processor)
67	A19	HA19	O	Address 19
68	A20	HA20	O	Address 20 (D. SERVO)
69	A21	HA21	O	Address 21
70	A22	HA22	O	Address 22
71	A23	HA23	O	Address 23
72	/RD	/RD	O	/Read strobe
73	/WR	/WR	O	/Write strobe
74	P32	-	I/O	
75	/WAIT	/MWAIT	I	/Wait
76	P34	RCODE	I/O	
77	P35	-	I/O	
78	P36	-	O	
79	P37	-	I/O	
80	P40/CS0	-	O	
81	/CS1	/CS1	-	Chip select 1 (SRAM, 1M Bit, 128KB)

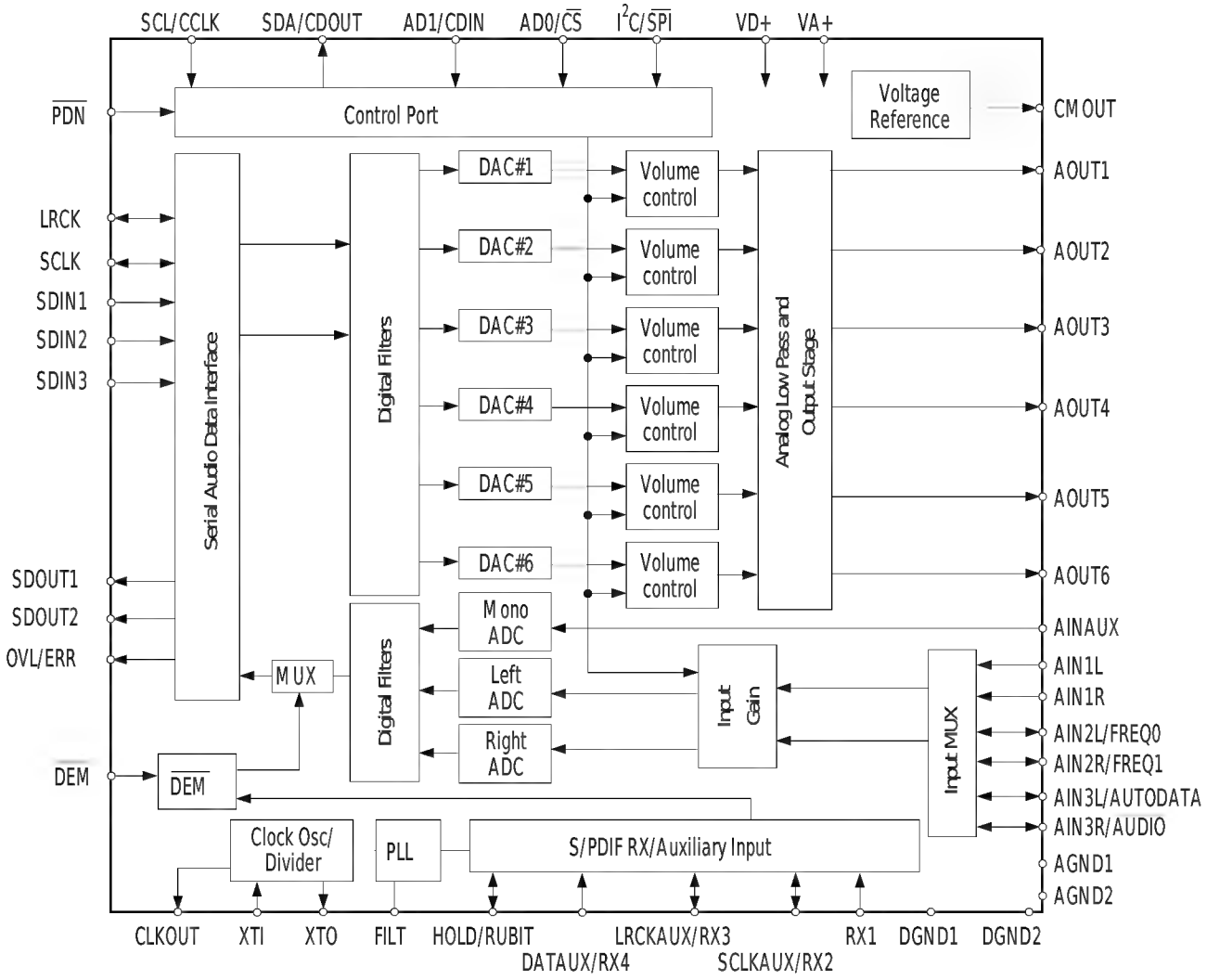
No.	PORT NAME	ASSIGNED NAME	I/O	FUNCTION
82	/CS2	/CS2	O	Chip slect 2 (EPROM, 4M Bit, 512KB)
83	P60	-	I/O	
84	P61	TRAY-IN	O	Tray in control output
85	P62	TRAY-OUT	O	Tray out control output
86	P63	SCL	O	IIC clock (MDEO ENCODER)
87	P64	SDA	I/O	IIC clock (MDEO ENCODER)
88	P65	DAB	O	D.Servo IC data/Address select
89	P66	CSB	O	D.Servo IC chip select
90	P67	RSTB	O	D.Servo IC reset
91	Vss	GND	-	
92	P50	SLOCK		LOCK monitor from DSP
93	P51	TILTO	I	Monitor signal
94	P52	FR	I	Spindle direction from SP driver
95	P53	SENSE	I	SENSE monitor from SERVO
96	P54	FOKB	I	Focus lock monitor from RF
97	P55	RFRP1	I	Tracking lock monitor from SERVO
98	P56	RFO	I	RF sum signal
99	P57	VREFO	I	
100	VREFH	AVCC	I	A/D Ref input (H)

2-1-9 AIC1 (CS4926 ; Multi-Channel Digital Audio Decoder)



PIN	NAME	FUNCTION
1	VD1	Digital Positive Supply
2	DGND1	Digital Supply Ground
3	XMT958	SPDIF Transmitter Output
4	WR,DS,DMWR,GPIO10	Host Write StrobeHost Data StrobeExternal Memory Write EnableGeneral Purpose Input & Output Number 10
5	RD,R/W,EMOE,GPIO11	Host Parallel Output EnableHost Parallel R/WExternal Memory Output EnableGeneral Purpose Input & Output Number 11
6	A1,SCDIN	Host Address Bit OneSPI Serial Control Data Input
7	A0,SCCLK	Host Parallel Address Bit ZeroSerial Control Port Clock
8	DATA7,EMAD7,GPIO7	Multiplexed Address and Data Bus
9	DATA6,EMAD6,GPIO6	Multiplexed Address and Data Bus
10	DATA5,EMAD5,GPIO5	Multiplexed Address and Data Bus
11	DATA4,EMAD4,GPIO4	Multiplexed Address and Data Bus
12	VD2	Digital Positive Supply
13	DGND2	Digital Supply Ground
14	DATA3,EMAD3,GPIO3	Multiplexed Address and Data Bus
15	DATA2,EMAD2,GPIO2	Multiplexed Address and Data Bus
16	DATA1,EMAD1,GPIO1	Multiplexed Address and Data Bus
17	DATA0,EMAD0,GPIO0	Multiplexed Address and Data Bus
18	CS	Host Parallel Chip Select,Host Serial SPI Chip Select
19	SCDIO,SCDOUT,PSEL,GPIO9	Serial Control Port Data Input and Output,Parallel Port Type Select
20	ABOOT,INTREQ	Control Port Interrupt request,Automatic Boot Enable
21	EXTMEM,GPIO8	External Memory Chip SelectGeneral Purpose Input & Output Number 8
22	SDATAN1	PCM Audio Data Input Number One
23	VD3	Digital Positive Supply
24	DGND3	Digital Supply Ground
25	SCLKN1,STCCLK2	PCM Audio Input Bit clock
26	LRCLKN1	PCM Audio Input Sample Rate Clock
27	CMPDAT,SDATAN2	PCM Audio Data Input Number Two
28	CMPCLK,SCLKN2	PCM Audio Input Bit Clock
29	CMPREQ,LRCLKN2	PCM Audio Input Sample Rate Clock
30	CLKIN	Master Clock Input
31	CLKSEL	DSP Clock Select
32	FILT2	Phase-Locked Loop Filter
33	FILT1	Phase-Locked Loop Filter
34	VA	Analog Positive Supply
35	AGND	Analog Supply Ground
36	RESET	Master Reset Input
37	DD	Reserved
38	DC	Reserved
39	AUDATA2	Digital Audio Output 2
40	AUDATA1	Digital Audio Output 1
41	AUDATA0	Digital Audio Output 0
42	LRCLK	Audio Output Sample Rate Clock
43	SCLK	Audio Output Bit Clock
44	MCLK	Audio Master Clock

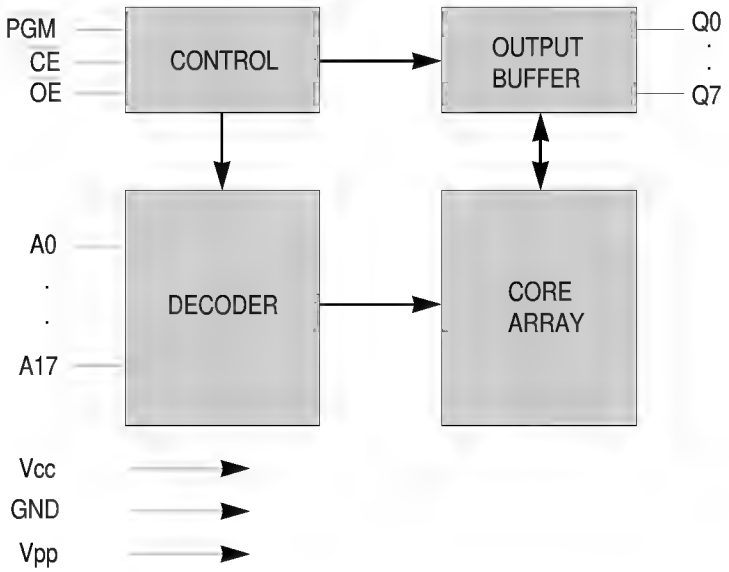
2-1-10 AIC3 (CS4226 ; Surround Sound Codec)

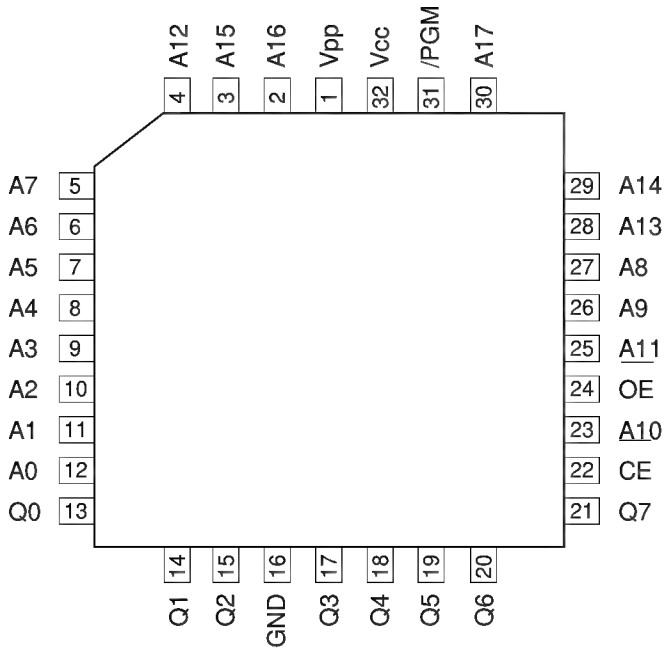


PIN	NAME	CLASSIFICATION	FUNCTION
1	DATAUX/RX4	Auxillary Digital Audio and S/PDIF Receiver Signals	Auxiliary Data InputReceiver Channel 4
2	HOLD/RUBIT	Auxillary Digital Audio and S/PDIF Receiver Signals	S/PDIF Received User BitHOLD Control
3	SCL/CCLK	Control Port Signals	Serial Control Interface Clock
4	SDA/CDOUT	Control Port Signals	Serial Control Data Out
5	AD1/CDIN	Control Port Signals	Address BitSerial Control Data In
6	AD0/CS	Control Port Signals	Address BitControl Port Chip Select
7	I^2C/SPI	Control Port Signals	Control Port Format
8	$\overline{PDN}$	-	Powerdown Pin
9	AIN3R/AUDIO	Analog Inputs	Right Channel Mux Input 3AC3 detect Output
10	AIN3L/AUTODATA	Analog Inputs	Left Channel Mux Input 3AC3 detect Output
11	AIN2L/FREQ0	Analog Inputs	Left Channel Mux Input 2Channel Status Freq. Bits
12	AIN2R/FREQ1	Analog Inputs	Right Channel Mux Input 2Channel Status Freq. Bits
13	AIN1R	Analog Inputs	Right Channel Mux Input 1
14	AIN1L	Analog Inputs	Left Channel Mux Input 1
15	AINAUX	Analog Inputs	Auxiliary Line Level Input
16	CMOUT	Analog Outputs	Common Mode Output
17	FILT	-	PLL Loop Filter Pin
18	AGND1	Power Supply	Analog Ground
19	VA+	Power Supply	Analog Power Input
20	AGND2	Power Supply	Analog Ground
21	AOUT1	Analog Outputs	Audio Output : Left
22	AOUT2	Analog Outputs	Audio Output : Right
23	AOUT3	Analog Outputs	Audio Output : Left Surround
24	AOUT4	Analog Outputs	Audio Output : Right Surround
25	AOUT5	Analog Outputs	Audio Output : Center
26	AOUT6	Analog Outputs	Audio Output : Sub Woofer
27	DEM	Digital Audio Interface Signals	De-emphasis Control
28	XTI	Clock and Crystal Pins	Crystal connections
29	XTO	Clock and Crystal Pins	Crystal connections
30	OVL/ERR	Digital Audio Interface Signals	Overload Indicator
31	CLKOUT	-	Master Clock Output
32	SDIN3	Digital Audio Interface Signals	Serial Data Input
33	SDIN2	Digital Audio Interface Signals	Serial Data Input
34	SDIN1	Digital Audio Interface Signals	Serial Data Input
35	SDOUT2	Digital Audio Interface Signals	Serial Data Output 2
36	SDOUT1	Digital Audio Interface Signals	Serial Data Output 1
37	LRCK	Digital Audio Interface Signals	Left/Right Select Signal I/O
38	SCLK	Digital Audio Interface Signals	Serial Port Clock I/O
39	DGND2	Power Supply	Digital Ground
40	VD+	Power Supply	Digital Power Input
41	DGND1	Power Supply	Digital Ground
42	RX1	Auxillary Digital Audio and S/PDIF Receiver Signals	Receiver Channel 1
43	SCLKAUX/RX2	Auxillary Digital Audio and S/PDIF Receiver Signals	Auxiliary Bit Clock Input or OutputReceiver Channel 2
44	LRCKAUX/RX3	Auxillary Digital Audio and S/PDIF Receiver Signals	Auxiliary Word Clock Input or OutputReceiver Channel 3

2-1-11 AIC2 (W27C020 ; 2MB EPROM)

BLOCK DIAGRAM

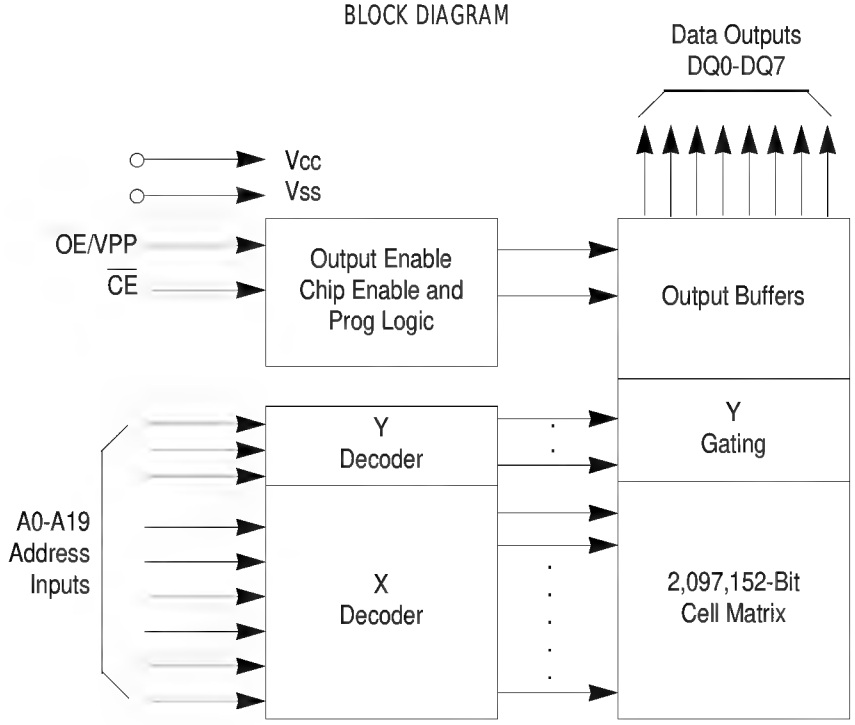




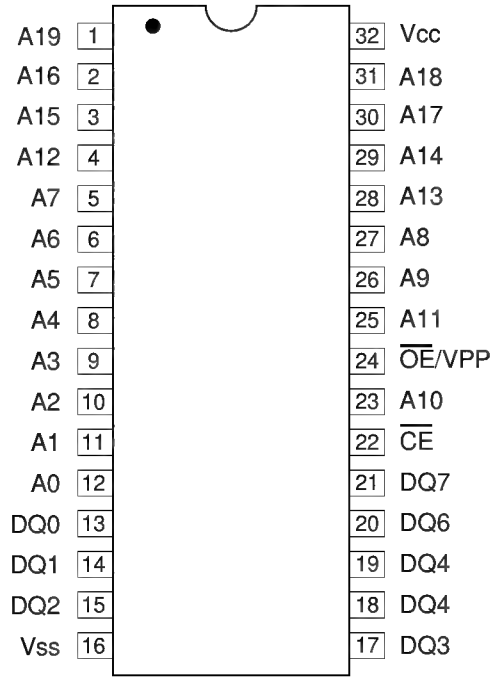
NAME	FUNCTION
A0 - A17	Address Inputs
Q0 - Q7	Data Input/Outputs
$\overline{CE}$	Chip Enable
$\overline{OE}$	Output Enable
$\overline{PGM}$	Program Enable
Vpp	Program/Erase Supply Voltage
Vcc	Power Supply
GND	Ground

2-1-12 MIC8 (M27C801 ; 8MB (1M x 8-bit) CMOS EPROM)

BLOCK DIAGRAM



TOP VIEW



NAME	FUNCTION
A0-A19	Address Inputs
CE	Chip Enable Input
DQ0-DQ7	Data Input/Outputs
OE	Output Enable Input
Vcc	Vcc Syply Voltage
Vss	Ground

2-1-13 FIC1 (LC86P6232 ; Front Micom)

NO	PORT NAME	ASSIGNED NAME	I/O	FUNCTION	CONNECTED TO..
1	P52	MRST	O	FRONT END RESET	MAIN MICOM & SAA7128
2	PWM1	-	-		TP
3	P20	EMPHASIS	O	DE-EMPHASIS	AK4324
4	P21	/LATCH_42	O	CODEC(CS4226)	CS4226
5	P22	SEL_IN_B	O	INPUT SELECT	4052
6	P23	SEL_IN_A	O	INPUT SELECT	4052
7	P24	DIF0	O	DIF0	AK4324
8	P25	SEL_IN_C	O	INPUT SELECT	4052
9	P26	DIF2	O	DIF2	AK4324
10	P27	DAC_RST	O	AK4324 SOFT MUTE	AK4324
11	TEST1	-	-		TP
12	/RES	-	I	RESET	KA7545
13	XT1	GND			SMPS
14	XT2	-			TP
15	VSS	GND			SMPS
16	CF1	OSC		High Frequency OSC in	RESONATOR
17	CF2	OSC		High Frequency OSC out	RESONATOR
18	VDD	VDD			SMPS
19	AN0/P80	VOLUME_DOWN	I	J OG DATA (DOWN)	VOLUME
20	AN1/P81	VOLUME_UP	I	J OG DATA (UP)	VOLUME
21	AN2/P82	HP_DET	I	HEADPHONE SENSE	HEADPHONE JACK
22	AN3/P83	MODE0	I	HARDWARE MODE SELECT	MARKET CODE
23	AN4/P84	MODE1	I	HARDWARE MODE SELECT	MARKET CODE
24	AN5/P85	MODE2	I	HARDWARE MODE SELECT	MARKET CODE
25	AN6/P86	MODE3	I	HARDWARE MODE SELECT	MARKET CODE
26	AN7/P87	MODE4	I	HARDWARE MODE SELECT	MARKET CODE
27	P70/INT0	RRQ	I	Request to Front Micom	MAIN MICOM
28	P71/INT1	AMP_DET	I	AMP PROTECTION SENSE	AMP BOARD
29	P72/INT2	-	I		TP
30	P73/INT3	REMOCON	I	REMOCON data in	REMOCON EYE
31	S0/T0	GRID8	O	FLT GRID CONTROL	FLT
32	S1/T1	GRID7	O	FLT GRID CONTROL	FLT
33	S2/T2	GRID6	O	FLT GRID CONTROL	FLT
34	S3/T3	GRID5	O	FLT GRID CONTROL	FLT
35	S4/T4	GRID4	O	FLT GRID CONTROL	FLT
36	S5/T5	GRID3	O	FLT GRID CONTROL	FLT
37	S6/T6	GRID2	O	FLT GRID CONTROL	FLT
38	S7/T7	GRID1	O	FLT GRID CONTROL	FLT
39	S8/T8	-	O		NC
40	S9/T9	-	O		NC
41	S10/T10	-	O		NC
42	S11/T11	SEG21	O	FLT SEGMENT CONTROL	FLT
43	S12/T12	SEG20	O	FLT SEGMENT CONTROL	FLT
44	S13/T13	SEG19	O	FLT SEGMENT CONTROL	FLT
45	S14/T14	SEG18	O	FLT SEGMENT CONTROL	FLT
46	S15/T15	SEG17	O	FLT SEGMENT CONTROL	FLT
47	VDD	+5 V	-		SMPS
48	VP	- 28 V	-		SMPS
49	S16	SEG16	O	FLT SEGMENT CONTROL	FLT
50	S17	SEG15	O	FLT SEGMENT CONTROL	FLT
51	S18	SEG14	O	FLT SEGMENT CONTROL	FLT
52	S19	SEG13	O	FLT SEGMENT CONTROL	FLT
53	S20	SEG12	O	FLT SEGMENT CONTROL	FLT
54	S21	SEG11	O	FLT SEGMENT CONTROL	FLT
55	S22	SEG10	O	FLT SEGMENT CONTROL	FLT
56	S23	SEG9	O	FLT SEGMENT CONTROL	FLT
57	S24	SEG8	O	FLT SEGMENT CONTROL	FLT
58	S25	SEG7	O	FLT SEGMENT CONTROL	FLT
59	S26	SEG6	O	FLT SEGMENT CONTROL	FLT
60	S27	SEG5	O	FLT SEGMENT CONTROL	FLT
61	S28	SEG4	O	FLT SEGMENT CONTROL	FLT
62	S29	SEG3	O	FLT SEGMENT CONTROL (KEY SCAN)	FLT & TACT SWITCH
63	S30	SEG2	O	FLT SEGMENT CONTROL (KEY SCAN)	FLT & TACT SWITCH
64	S31	SEG1	O	FLT SEGMENT CONTROL (KEY SCAN)	FLT & TACT SWITCH
65	P00	KEY0	I	KEY SCAN	TACT SWITCH
66	P01	KEY1	I	KEY SCAN	TACT SWITCH
67	P02	KEY2	I	KEY SCAN	TACT SWITCH
68	P03	GND	I		SMPS
69	P04	RELAY_S	O	RELAY CONTROL (SURROUND)	AMP BOARD
70	P05	RELAY_C	O	RELAY CONTROL (CENTER)	AMP BOARD
71	P06	RELAY_F	O	RELAY CONTROL (FRONT)	AMP BOARD
72	P07	SRQ	O	Request to MAIN Micom	MAIN MICOM
73	P10/SCO	TXD	O	SERIAL DATA OUT	MAIN MICOM
74	P11/SI0	RXD	I	SERIAL DATA IN	MAIN MICOM
75	P12/SCK0	SCLK	O	SERIAL CLOCK	MAIN MICOM
76	P13/SO1	SDATA	O	SERIAL CONTROL DATA OUT	"CS4936, CS4226"
77	P14/SI1	MISO	I	SERIAL CONTROL DATA IN	"CS4936, CS4226"
78	P15/SCK1	SCLOCK	O	CLK	"CS4936, CS4226"
79	P16/BUZ	/LATCH_49	O	/CS	CS4936
80	P17/PWM0	/HREQ	O	/ABOOT	CS4936
81	P30	LED_DVD	O	FUNCTION LED (DVD)	LED
82	P31	LED_VCR	O	FUNCTION LED (VCR)	LED
83	P32	LED_AUX	O	FUNCTION LED (AUX)	LED
84	P33	DSP_RST	O	DSP & CODEC RESET	"CS4936, CS4226"
85	P34	A17	O	ADDRESS	W27C020
86	P35	A16	O	ADDRESS	W27C020
87	P36	AT	I	TV TYPE	VIDEO SWITCH
88	P37	AD	I	TV TYPE	VIDEO SWITCH
89	VSS	GND	-		SMPS
90	VDD	+5 V	-		SMPS
91	P40	RCBCTL	O	SCART CONTROL	SCART
92	P41	SCON	O	SCART CONTROL	SCART
93	P42	CONFIG2	O		4053 SWITCH
94	P43	WIDE	O	SCART CONTROL	SCART
95	P44	MUTE_W	O	MUTE SUB WOOFER	AUDIO MUTE
96	P45	MUTE_C	O	MUTE SURROUND	AUDIO MUTE
97	P46	MUTE_S	O	MUTE REAR	AUDIO MUTE
98	P47	MUTE_F	O	MUTE FRONT	AUDIO MUTE
99	P50	LED_P	O	STANDBY LED	LED
100	P51	ON/OFF	O	POWER ON/OFF CONTROL	SMPS & SCART

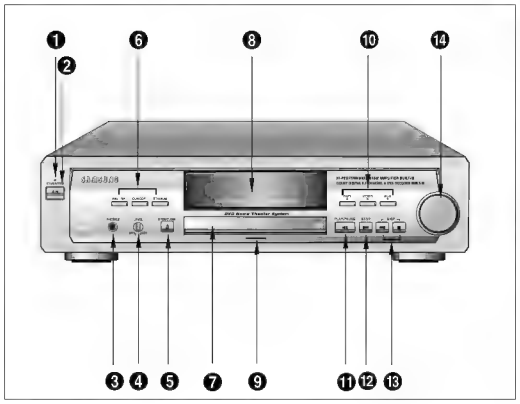
3. Product Specifications

GENERAL	Power Requirements	AC 230V, 50Hz
	Power Consumption	19W min ; 350W max.
	Weight	11.5Kg
	Dimensions	W 430mm X D 300mm X H 110mm
	Operating Temperature Range	+5°C to +35°c
	Operating Humidity Range	10% ~75%
DISC	DVD (Digital Versatile Disc)	Reading Speed : 3.49 m/sec
		Approx. Play Time (Single Sided, Single Layer Disc) : 135 min.
	CD : 12Cm (Compact Disc)	Reading Speed : 1.2 to 1.4 m/sec
		Maximum Play Time : 74min.
	CD : 8Cm (Compact Disc)	Reading Speed : 1.2 to 1.4 m/sec
		Maximum Play Time : 20min.
	VCD : 12Cm	Reading Speed : 1.2 to 1.4 m/sec
		Maximum Play Time : 74min. (Video + Audio)
Video Output	SCART JACK	R(Red) : 0.714 Vp-p (75 ohm load)
		G(Green) : 0.714 Vp-p (75 ohm load)
		B(Blue) : 0.714 Vp-p (75 ohm load)
		Composite Video : 1.0 Vp-p (75 ohm load)
		Luminance Signal : 1.0 Vp-p (75 ohm load)
		Color Signal : 1.0 Vp-p (75 ohm load)
	Composite Video	2 channel : 1.0Vp-p (75ohm load)
	S-VIDEO	Luminance Signal : 1Vp-p (75ohm load)
		Color Signal : 0.286Vp-p (75ohm load)
Audio Output	SCART JACK	2 Channel : L(1/L), R(2/R)
	RCA-JACK	5.1 Channel : F/L, L/R, R/L, R/R, C/T, S/W
		2 Channel : L(1/L), R(2/R)
	Output Level	Analog : 2Vrms (1 KHz) Digital : 1.15 Vp-p
	* Frequency Response	96/48 KHz Sampling : 10 Hz to 22 KHz
	* S/N Ratio	110 dB
	* Dynamic Range	96 dB
	* Total Harmonic Distortion	0.003 %
Speaker Output	Output Power	200 watt (5 channels by 40 watts, 8 ohm)
	*Total Harmonic Distortion	0.08 %

* : Nominal specification

MEMO

Description-Front Panel



Front Panel Controls

❶ **STANDBY LAMP**
- When power is pressed on, the indicator lights. When power is pressed off, the light goes out.

❷ **POWER ON/OFF**
- Use to turn the power on or off.

❸ **HEADPHONES JACK**
- You can attach headphones here for private listening.

❹ **HEADPHONES VOLUME**
- Use to adjust headphones volume level.

❺ **OPEN/CLOSE**
- Press to open and close the disc tray.

❻ **SOUND FIELD SELECTION**
- Converts a mono or stereo soundtrack surround to natural, concert or stadium sound you want. To release the current status, press the button again.

❼ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

❽ **DISPLAY** (See below)
- Operation indicators are displayed here.

❾ **GREEN LAMP**

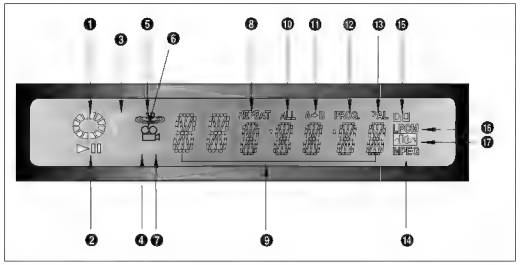
❿ **INPUT SELECTION**
- Press to view and listen to a DVD (VCD or CD), VCR or TV (or other equipment). See page 12.

⓫ **PLAY/PAUSE**
- Begin or pause disc play.

⓬ **STOP**
- Stops disc play.

⓭ **SKIP**
- Use to skip a scene or music.

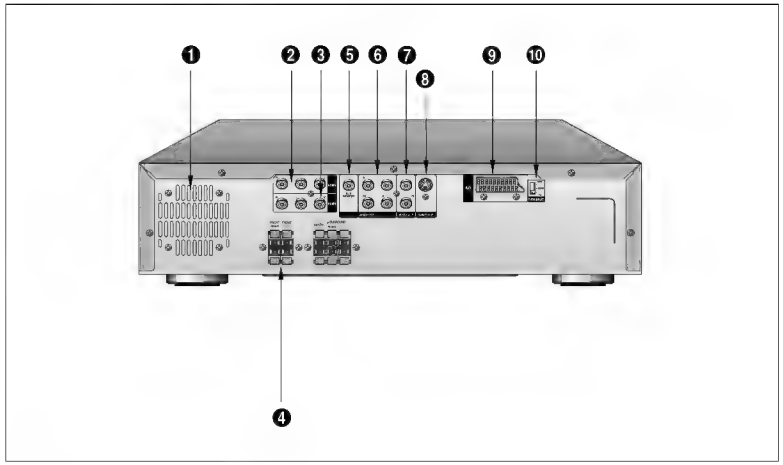
⓮ **VOLUME**
- Speaker output volume control



Front Display

❶ **DISC OPERATION ROTARY INDICATOR**
❷ **OPERATION INDICATOR**
❸ **DISC TYPE INDICATOR**
❹ **TRACK INDICATOR**
❺ **3D SOUND INDICATOR**
❻ **ANGLE INDICATOR**
❼ **CHAPTER INDICATOR**
❽ **REPEAT INDICATOR**
❾ **CHAPTER, TITLE, TRACK, TIME & MESSAGE INDICATOR**
❿ **ALL REPEAT INDICATOR**
⓫ **A-B REPEAT INDICATOR**
⓬ **PROGRAM PLAY INDICATOR**
⓭ **PAL INDICATOR**
⓮ **MPEG INDICATOR**
⓯ **DOLBY DIGITAL INDICATOR**
⓰ **LINEAR PCM INDICATOR**
⓱ **DTS INDICATOR**

Description-Rear Panel



Rear Panel

❶ COOLING FAN
- Operate automatically to ensure the player does not overheat. The fan may operate during extended operation at high volume levels. Make sure that the fan area is not blocked.

❷ VCR IN
- Connect to the right, left audio output and composite video output jacks of your VCR.

❸ AUX IN
- Connect to the right, left audio output jacks of your auxiliary equipment.

❹ 5CH SPEAKER OUT TERMINALS
- Connect the speakers.

❺ SUB WOOFER OUT JACK
- When listening to 5.1 ch sound, the low frequency less than 100 Hz is outputted.

❻ AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, A/V receiver, or VCR.

❼ VIDEO OUT JACKS
- Use a video cable to connect the Video input jack on your television.

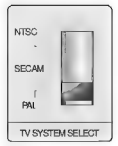
❽ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❾ SCART AV JACK
- Connect to a TV with scart input jack.

❿ TV SYSTEM SELECT SWITCH
- Use the switch to set TV broadcasting system.

TV System Select

You can enjoy NTSC or PAL encoded discs by using your TV SYSTEM SELECT switch to choose the appropriate system.



* This switch is located in the rear of DVD player.

- Only when you playback PAL-encoded DVD with NTSC-TV. The player can not playback the disc.
- When the selected TV-SYSTEM doesn't coincide with the system of your TV, normal color picture may not be displayed.
- Select the TV-SYSTEM with no disc playing.
- When you playback NTSC-encoded disc with PAL-TV, some discs may produce black bands at the top and bottom of the screen.

If you use PAL-TV

You should set TV SYSTEM to 'PAL'.

If you use NTSC-TV

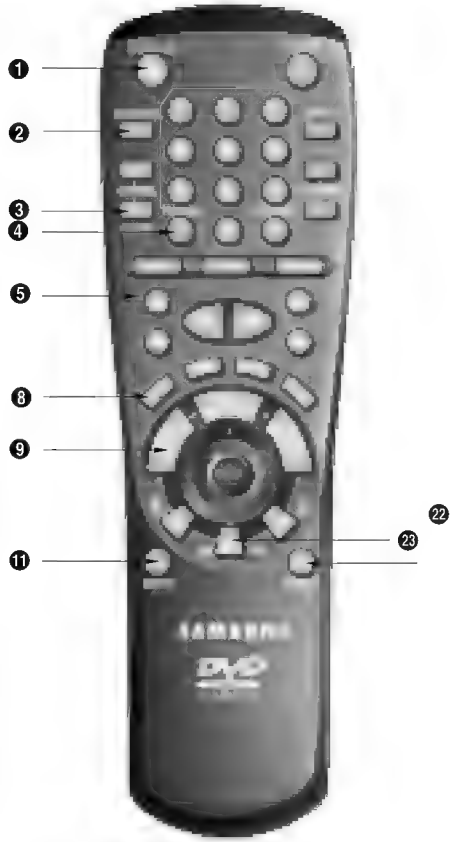
You should set TV SYSTEM to 'NTSC'.

If you use SECAM-TV

You should set TV SYSTEM to 'SECAM'.

DISC \ TV	PAL	NTSC	SECAM
NTSC-encoded (DVD/VIDEO-CD)			
PAL-encoded (DVD/VIDEO-CD)		* VIDEO-CD only.	

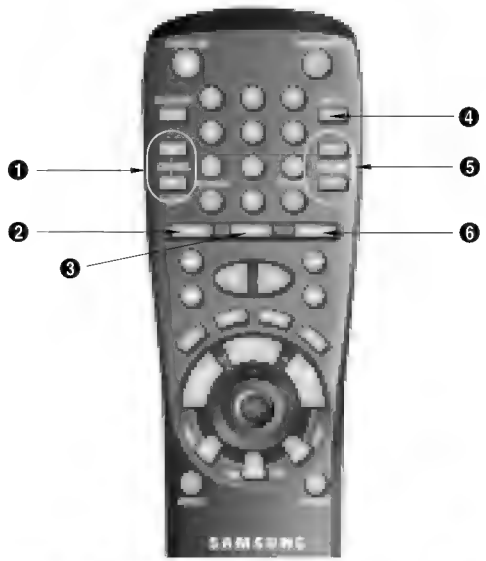
A Tour of the Remote Control



Function Buttons

1. **OPEN/CLOSE Button**
2. **BOOKMARK Button**
3. **CLEAR Button**
4. **PROGRAM Button**
   - Allows you to program a specific order.
5. **SEARCH Buttons**
   - Allows you to search forward/backward through a disc.
6. **STOP Button**
7. **STEP Button**
   - Advances playback one frame at a time.
8. **SETUP Button**
   - Brings up the DVD player's Main Menu.
9. **TITLE Button**
   - Use to display the Title Menu of DVD or the Disc View of VCD.
10. **AUDIO Button**
    - Use to access various audio functions on a disc.
11. **REPEAT Button**
    - Allows you to repeat play a title, chapter, track, or all discs.
12. **POWER Button**
13. **NUMBER Buttons**
14. **SPEAKER Button**
    - Use to display Speaker Setup Menu when playing a DVD.
15. **PLAY/PAUSE Button**
    - Begin/Pause disc play.
16. **SKIP Buttons**
    - Use to skip the title, chapter, or track.
17. **RETURN Button**
    - Returns to a previous menu.
18. **ZOOM Button**
19. **DISPLAY Button**
    - Displays the current disc mode.
20. **MENU Button**
    - Brings up the Disc Menu.
21. **ENTER/DIRECTION Button (UP/DOWN or LEFT/RIGHT Button)**
    - This button functions as a toggle switch.
22. **ANGLE Button**
    - Use to access various camera angles on a DVD.
23. **SUBTITLE Button**
    - Use to make subtitles appear or disappear on the screen.
24. **A-B REPEAT Button**
    - Use to mark a section to repeat between A and B.

A Tour of the Remote Control (Cont d)



Control Buttons

❶ CHANNEL UP/DOWN Buttons
- Allows you to move the channel on a compatible TV or VCR.

❷ DVD Button
- Allows the remote to control DVD functions only.

❸ VCR Button
- Selects the rear panel VCR audio/video inputs as the TV View, and allows the remote to control VCR functions only.

❹ MUTE Button
- Lowers the speaker volume to an inaudible level. The audio output from RCA or Scart will be not influenced.

❺ VOLUME UP/DOWN Buttons
- Control the volume of the speakers attached to the player.

❻ TV/AUX Button
- Selects the rear panel AUX audio/video inputs as the TV View, and allows the remote to control TV functions only.

Install Batteries in the Remote

1. Open the battery cover on the back of the remote.
2. Insert two AA batteries. Make sure that the polarities (+ and -) are aligned correctly.
3. Replace the battery cover.

If remote doesn't operate properly:

- Check the polarity + - of the batteries (Dry-Cell)
- Check if the batteries are drained.
- Check if remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

To Connect Headphones (not included)

Turn the headphone volume down to the minimum setting before connecting.
Adjust to your desired volume after connection.

NOTE This ⊘ icon indicates an invalid button press.

C onnection to a TV

The following diagrams show common connection examples that can be used for connecting your DVD player to a TV or other equipment.

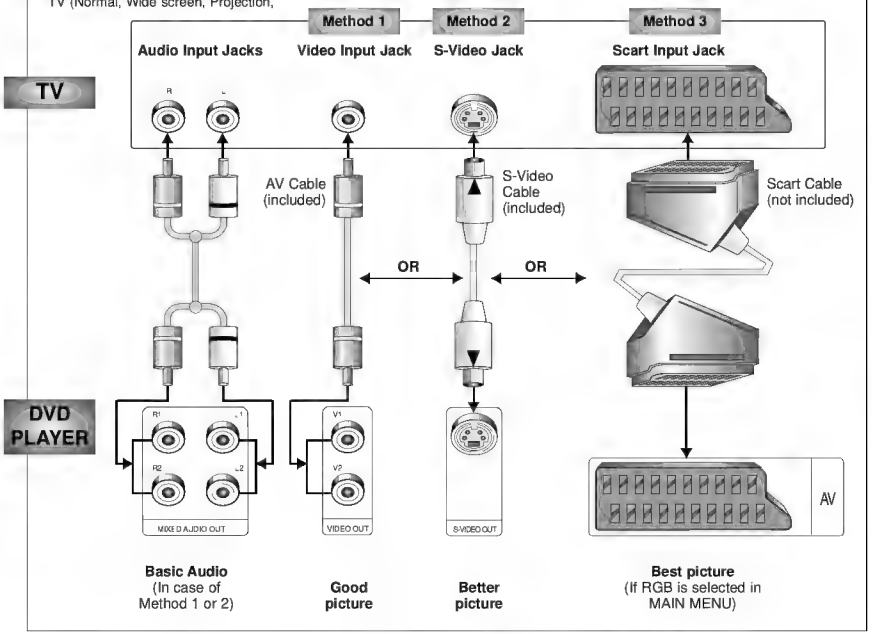
Before Connecting the DVD Player

- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the components you are connecting for more information on those particular components.

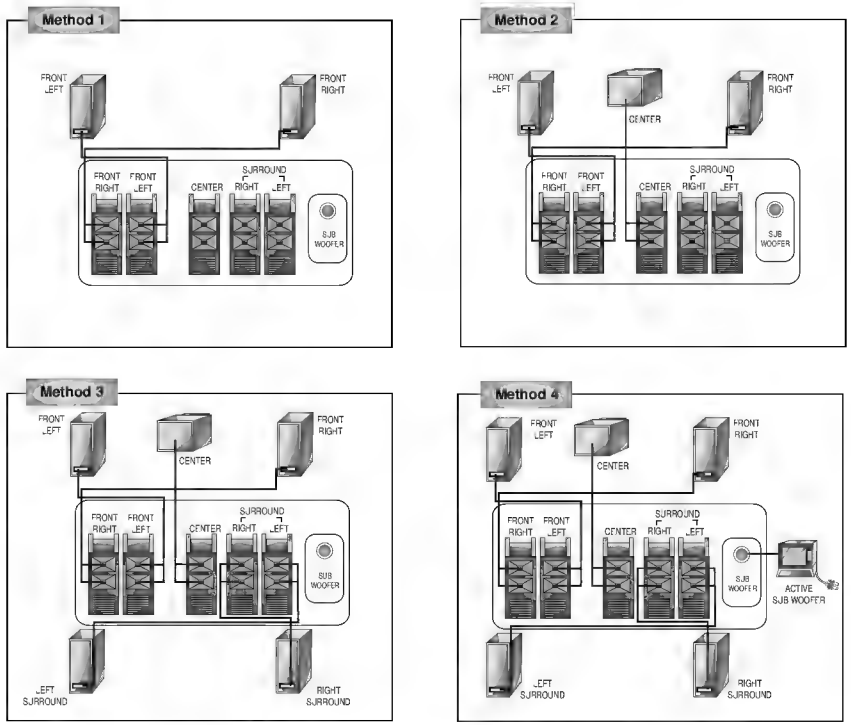
Connecting to a TV (For Video)

- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Scart Input Jack (Audio & Video)

Connecting to a TV



Connection to a Speaker



Connecting to a Speaker

- **Method 1 (2 Channel Sound)**
  Connect the player to two front speakers (RF, LF).
- **Method 2 (3 Channel Sound)**
  Connect the player to two front speakers and a center speaker (RF, C, LF).
- **Method 3 (5 Channel Sound)**
  Connect the player to five speakers (RF, C, LF, RS, LS).
- **Method 4 (5.1 Channel Sound)**
  Connect the player to five speakers (RF, C, LF, RS, LS) and an active subwoofer.

NOTE When matching your connections to your speakers setup, the player works well.

5. Disassembly and Reassembly

5-1 Cabinet and PCB

5-1-1 Door-Tray Removal

1) Supply power and open Tray ❶.
2) Disassemble the Door-Tray ❷ in direction of arrow "A".
3) Close Tray ❶ and power off.

Note : If Tray ❶ doesn't open, insert a Screw driver ❹ into the Emergency hole ❸(as shown in detailed drawing) and then turn it in the direction of arrow "B". Open Tray manually.

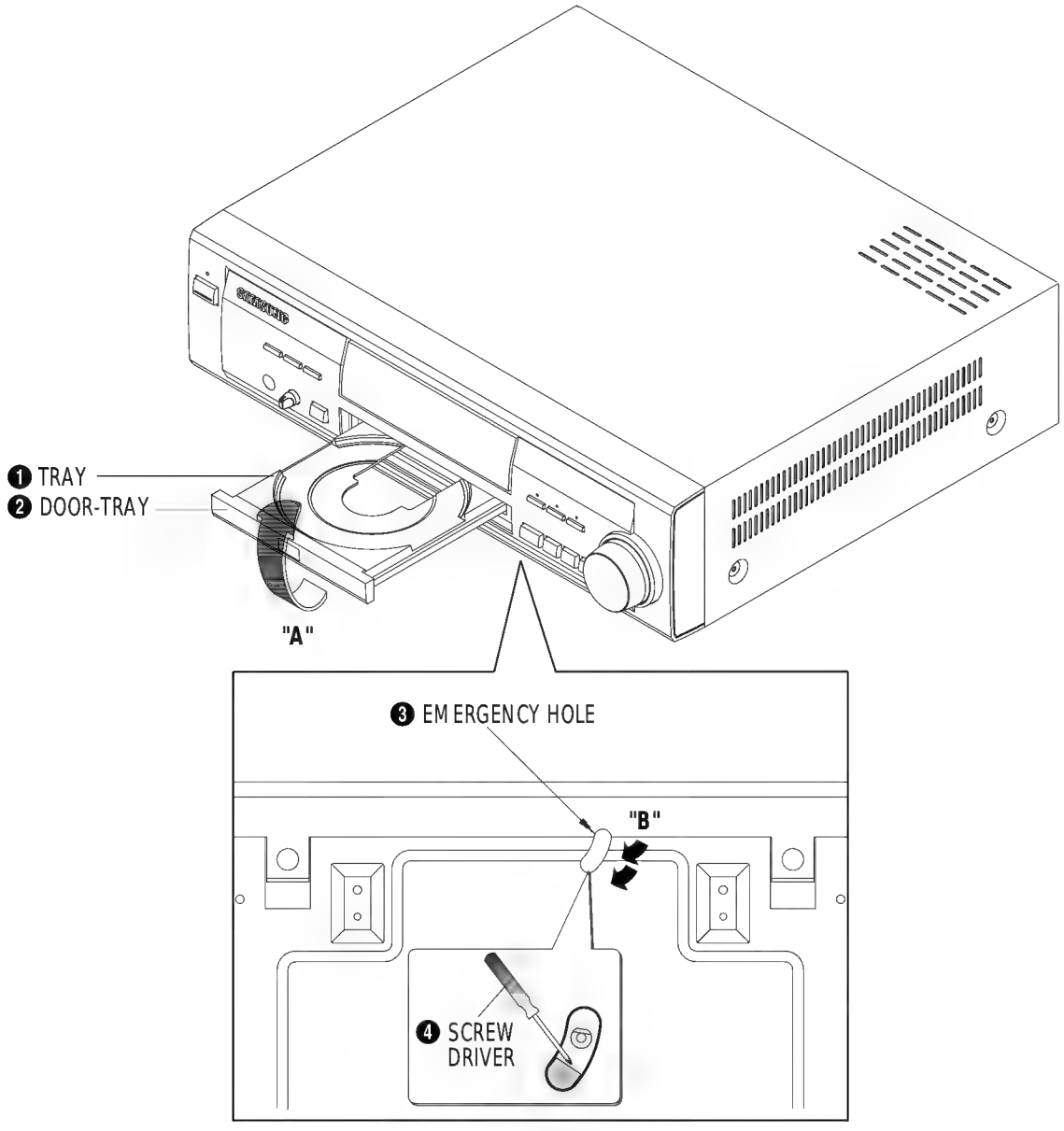


Fig. 5-1 Door-Tray Removal

5-1-2 Top Cabinet Removal

1) Remove 5 Screws ❶ on the back Top Cabinet.
2) Remove 4 Screws ❷, ❸ on the left and right side.
3) Lift up the Top Cabinet in direction of arrow.

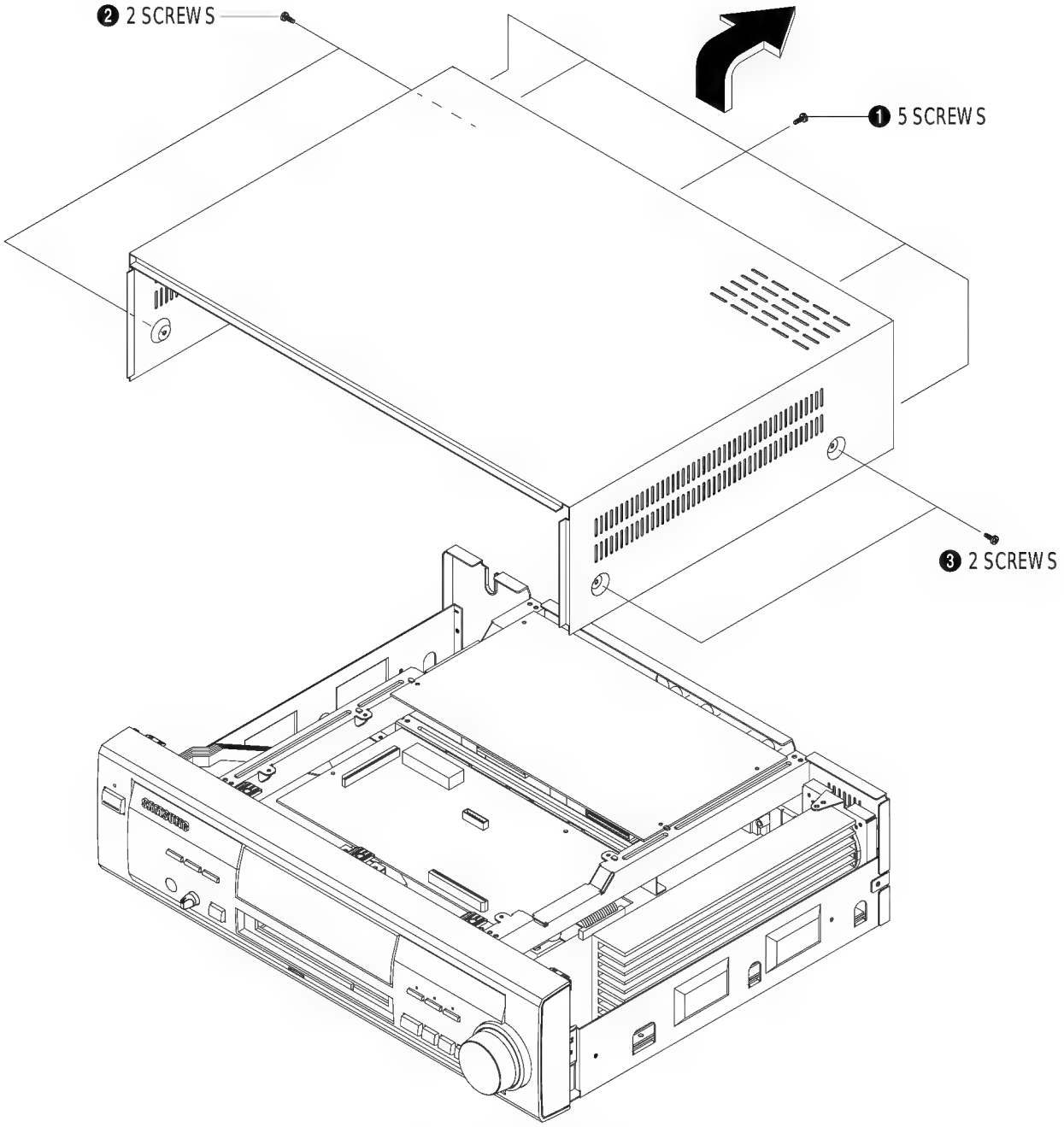


Fig. 5-2 Top Cabinet Removal

5-1-3 Ass'y Cabinet Front, Front PCB, Headphone PCB Removal

1) Release 3 Hooks ❶, 2 Hook ❷, ❸ on the left and right side, 2 Hooks ❹ on the bottom side and Ass'y Cabinet Front ❺.
2) Remove Knob-Volume ❻ and Knob-Volume AMP ❼.
3) Remove 2 Screws ❽, Bracket-Phone ❾ and Headphone PCB ❿.
4) Remove 11 Screws ⓫ and Front PCB ⓬.
5) Remove Knob-Power ⓭ and Frame-Stick ⓮.

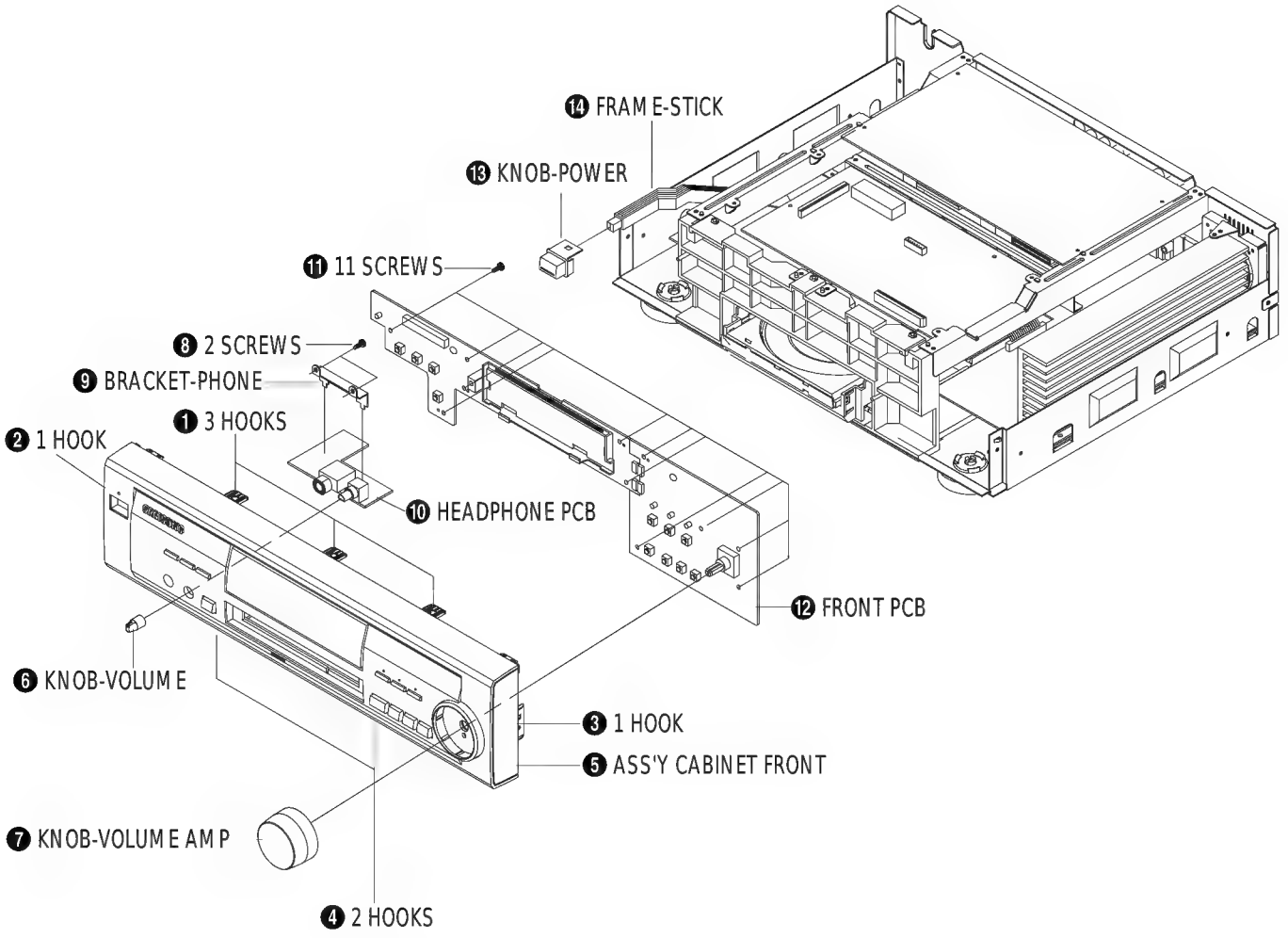


Fig. 5-3 Ass'y Cabinet Front, Front PCB, Headphone PCB Removal

5-1-4 Main PCB, Jack PCB Removal

1) Remove 3 Screws ❶, 4 Screws ❷ and lift up the Jack PCB ❸.
2) Remove 3 Screws ❹ and lift up the Main PCB ❺.
3) Remove 2 Screws ❻, Bracket-Middle ❼ and Bracket-L/R ❽, ❾.
4) Remove 2 Screws ❿, 4 Screws (Black Color) ⓫ and lift up the Power-Trans ⓬.
5) Remove 2 Screws ⓭ and lift up the Sub Bracket ⓮.

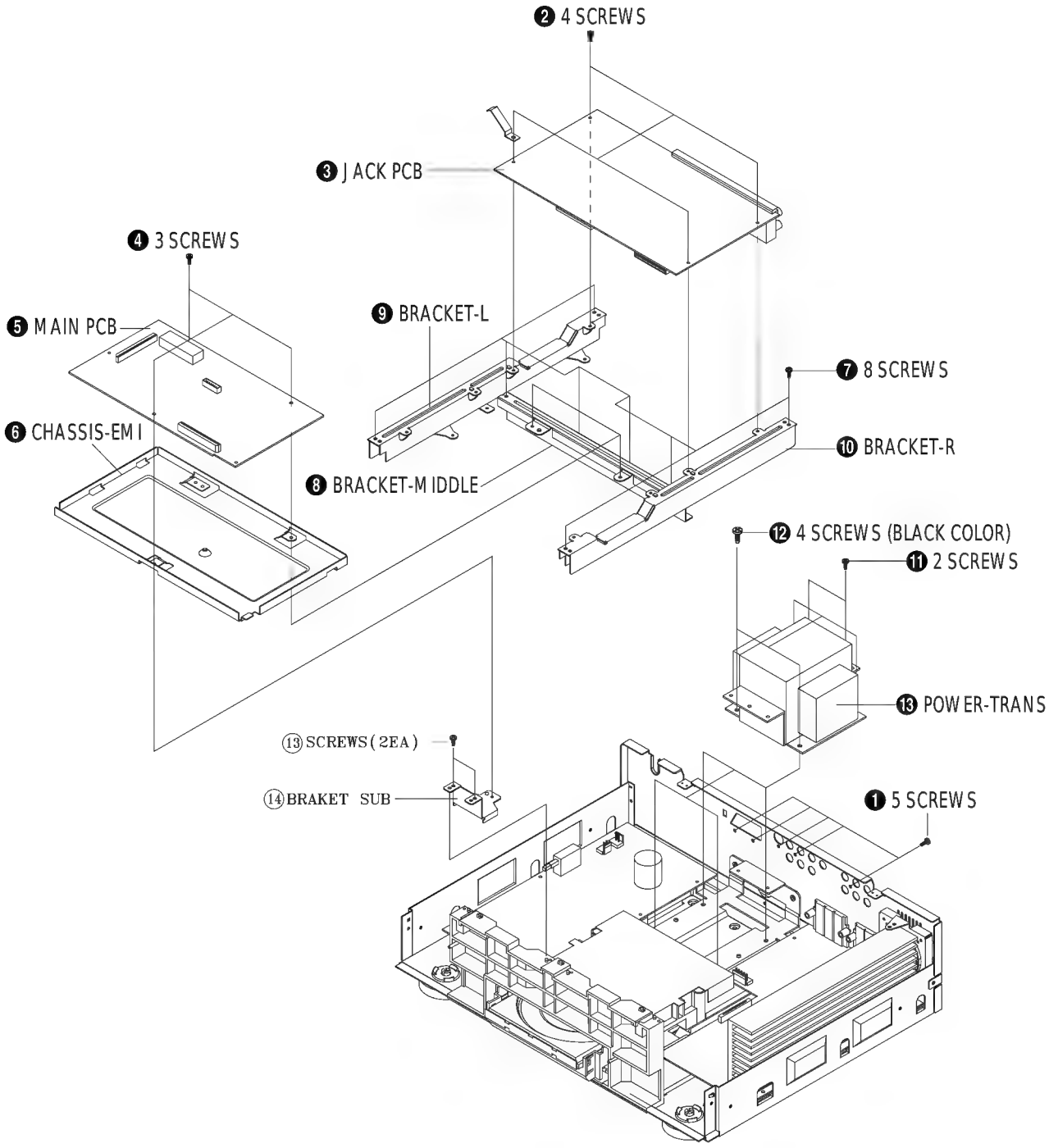


Fig. 5-4 Main PCB, Jack PCB Removal

5-1-5 Ass'y Deck, AMP PCB, S.M.P.S. PCB Removal

1) Remove 4 Screws ❶ and lift up the Ass'y Deck ❷.
2) Remove 4 Screws ❸, 6 Screws ❹ and lift up the AMP PCB ❺.
3) Remove 6 Screws ❻ and lift up the S.M.P.S. PCB ❼.

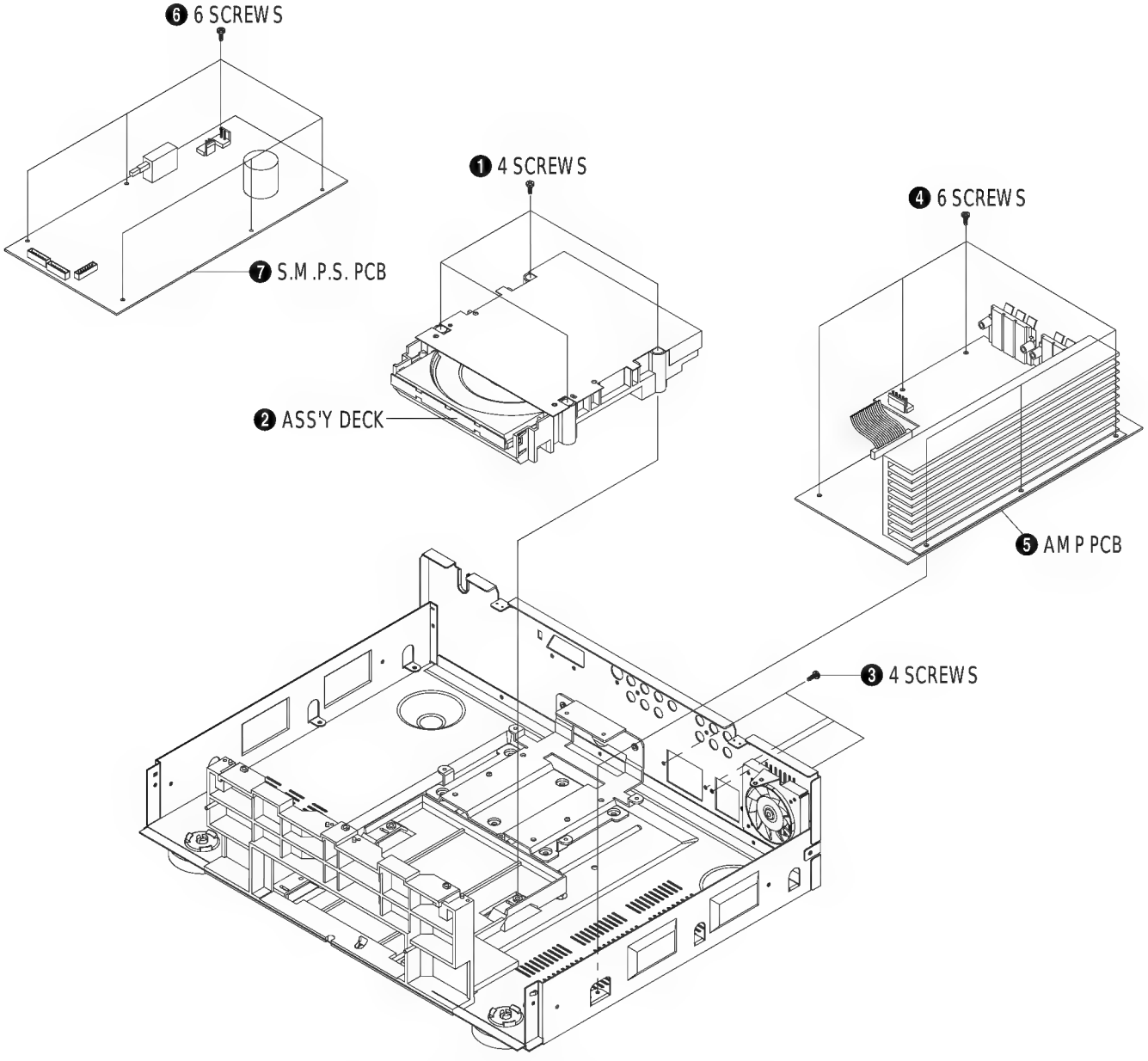


Fig. 5-5 Ass'y Deck, AMP PCB, S.M.P.S. PCB Removal

5-2 PCB Location

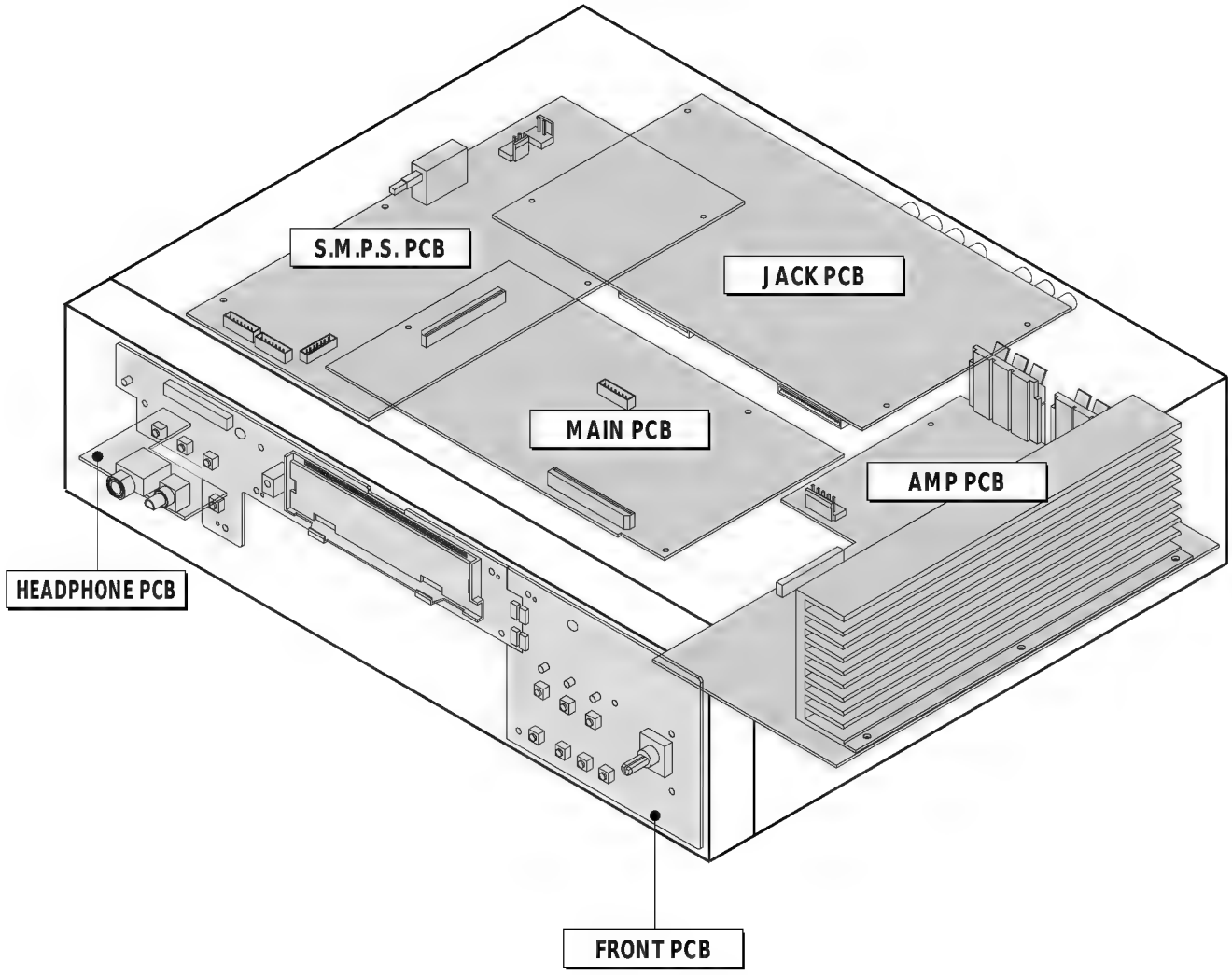
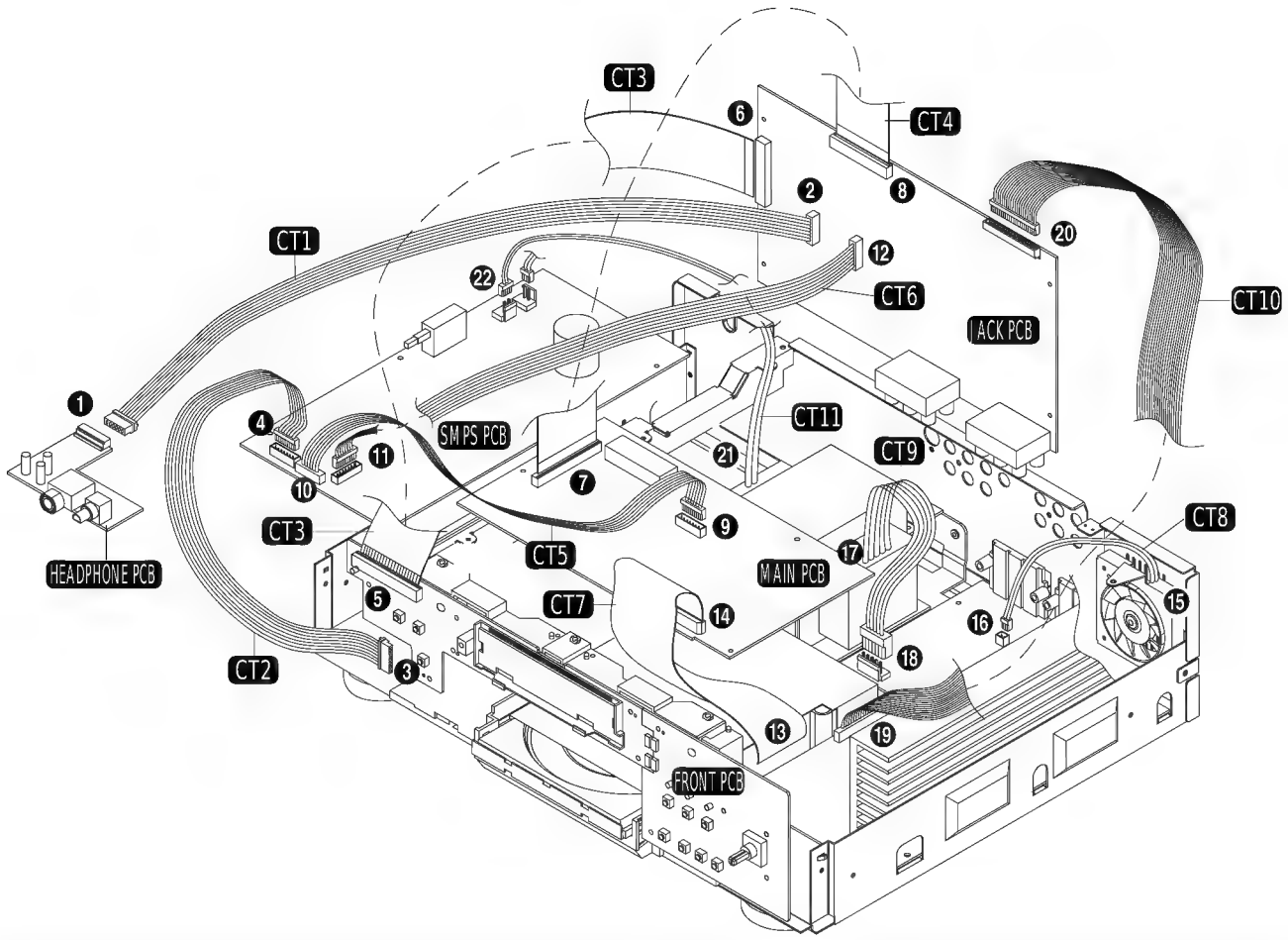


Fig. 5-6 PCB Location

5-3 Connector Diagram



NO.	CONNECTOR NO.	DIRECTION	CONNECTOR NO.	NO.
❶	HCON1	HEADPHONE PCB ◄ CT1 ► JACK PCB	CONNH	❷
❸	FCONNP	FRONT PCB ◄ CT2 ► S.M.P.S. PCB	CNFORNT	❹
❺	FCONNJ	FRONT PCB ◄ CT3 ► JACK PCB	CONNF	❻
❼	CN8	MAIN PCB ◄ CT4 ► JACK PCB	CONNM	❽
❾	CN7	MAIN PCB ◄ CT5 ► S.M.P.S. PCB	CN12	❿
⓫	CNJACK	S.M.P.S. PCB ◄ CT6 ► JACK PCB	CONNP	⓬
⓭	CN5	DECK PCB ◄ CT7 ► MAIN PCB	CN6	⓮
⓯	FAN	FAN ◄ CT8 ► AMP PCB	CNFAN	⓰
⓱	POWER TRTANS	POWER TRANS ◄ CT9 ► AMP PCB	CNTRNS	⓲
⓳	CNJACK	AMP PCB ◄ CT10 ► JACK PCB	CONNA	⓴
㉑	POWER TRTANS	POWER TRANS ◄ CT11 ► S.M.P.S. PCB	PCN02	㉒

Fig. 5-7 Connector Diagram

5-4 Deck

5-4-1 Tray Removal

1) Remove 2 Screws ❶ and lift up the Cover Sheet ❷, Ass'y-Deck Clamper ❸.
2) Insert a Screw driver ❺ into Emergency hole ❹ and push it in the direction of arrow "A".
   When the Tray ❻ comes out a little, pull it in the direction of arrow "B" by hand.
3) Pull the Tray ❻ to disassemble, while simultaneously pushing the Hook ❼, ❽ in direction of arrow "A", "B".

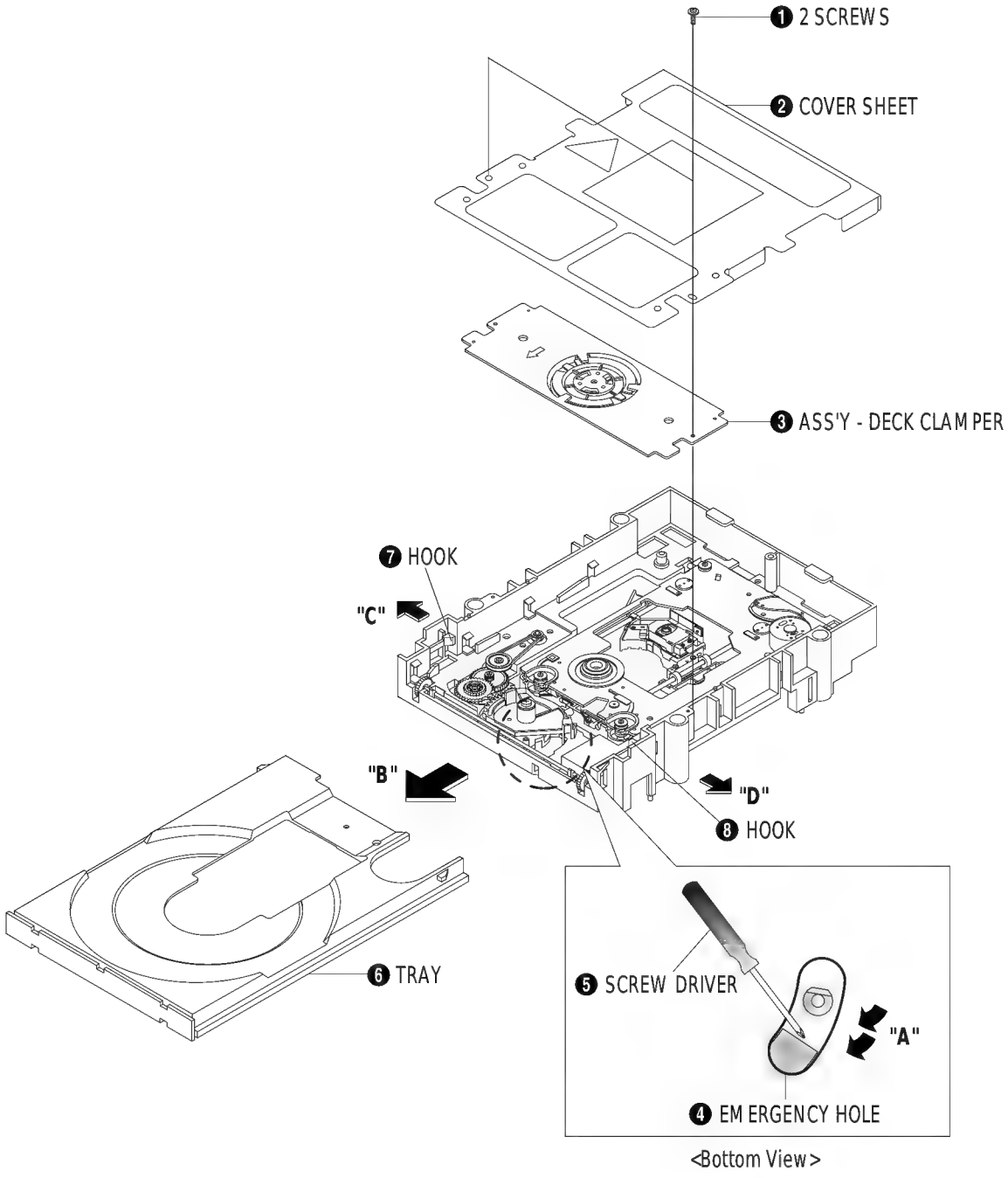


Fig. 5-8 Tray Removal

5-4-2 Ass'y-Deck Sub Removal

1) Remove 2 Screws ❶ and disassemble the Ass'y-PCB deck ❷.
2) Disassemble the Ass'y-Deck Sub ❹ in direction of arrow "B", while simultaneously pushing the Hook ❸ in direction of arrow "A".

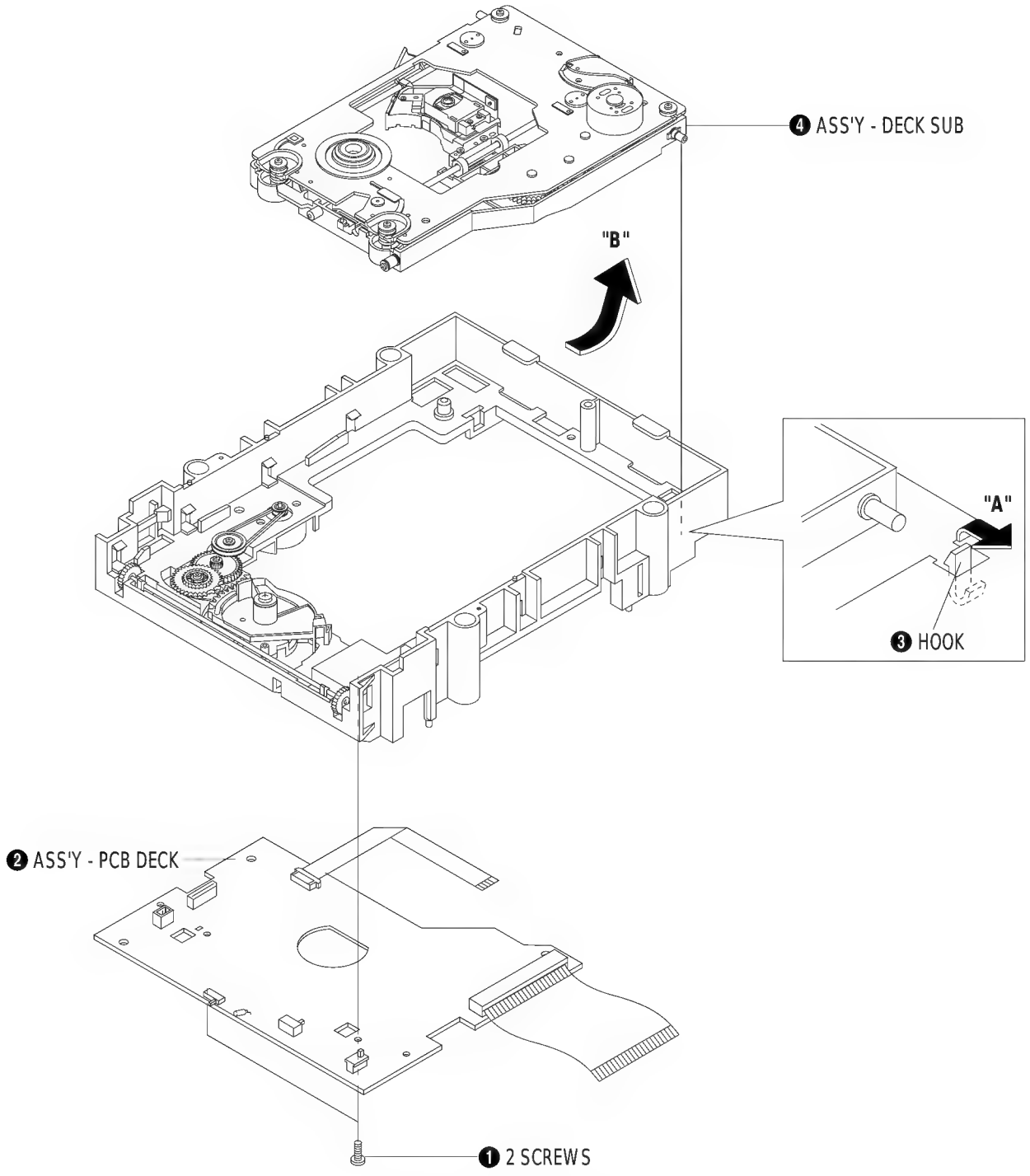


Fig. 5-9 Ass'y-Deck Sub Removal

5-4-3 Chassis-Main Parts Removal

1) Lift up the Gear-Tray ❶, remove 1 Screw ❷ and lift up the Gear-Cam Center ❸.
2) Lift up the Belt-Pulley ❹, remove 1 Screw ❺ and lift up the Pulley-Gear ❻.
3) Remove 1 Screw ❼ and lift up the Gear-Tray A ❽ and Gear-Cam Sub ❾.
4) Remove 2 Screws ❿ and disassemble the Ass'y-Motor Load ⓫.
5) Remove 1 Screw ⓬ and disassemble the Lever-Open S/W ⓭.
6) Lift up the Shaft-Syncro ⓮ and remove the 2 Gear-Syncro ⓯ in both directions.

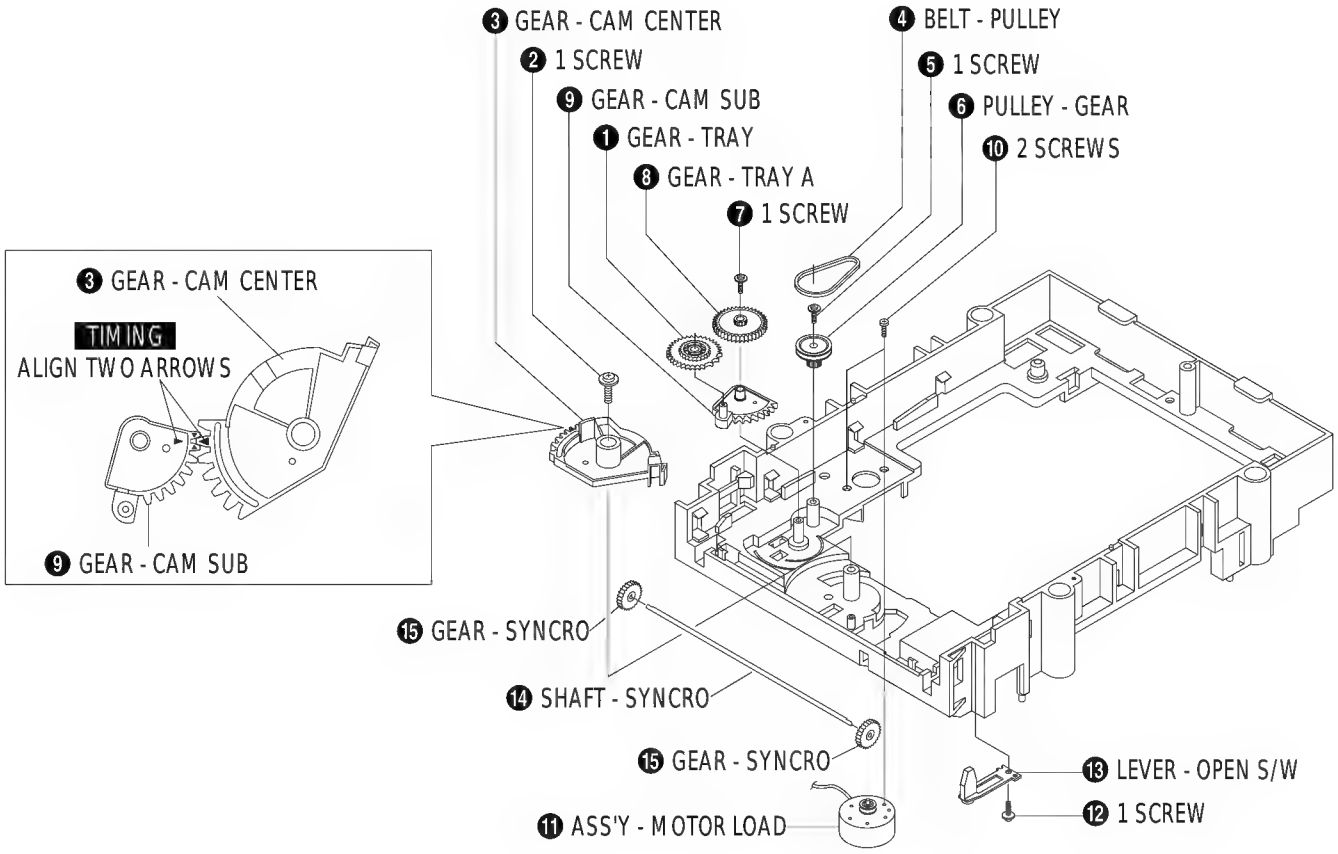


Fig. 5-10 Chassis-Main Parts Removal

5-4-4 Ass'y-Brkt Deck Removal

1) Remove 4 Screws ❶.
2) Lift up the Ass'y-Brkt Deck ❷.

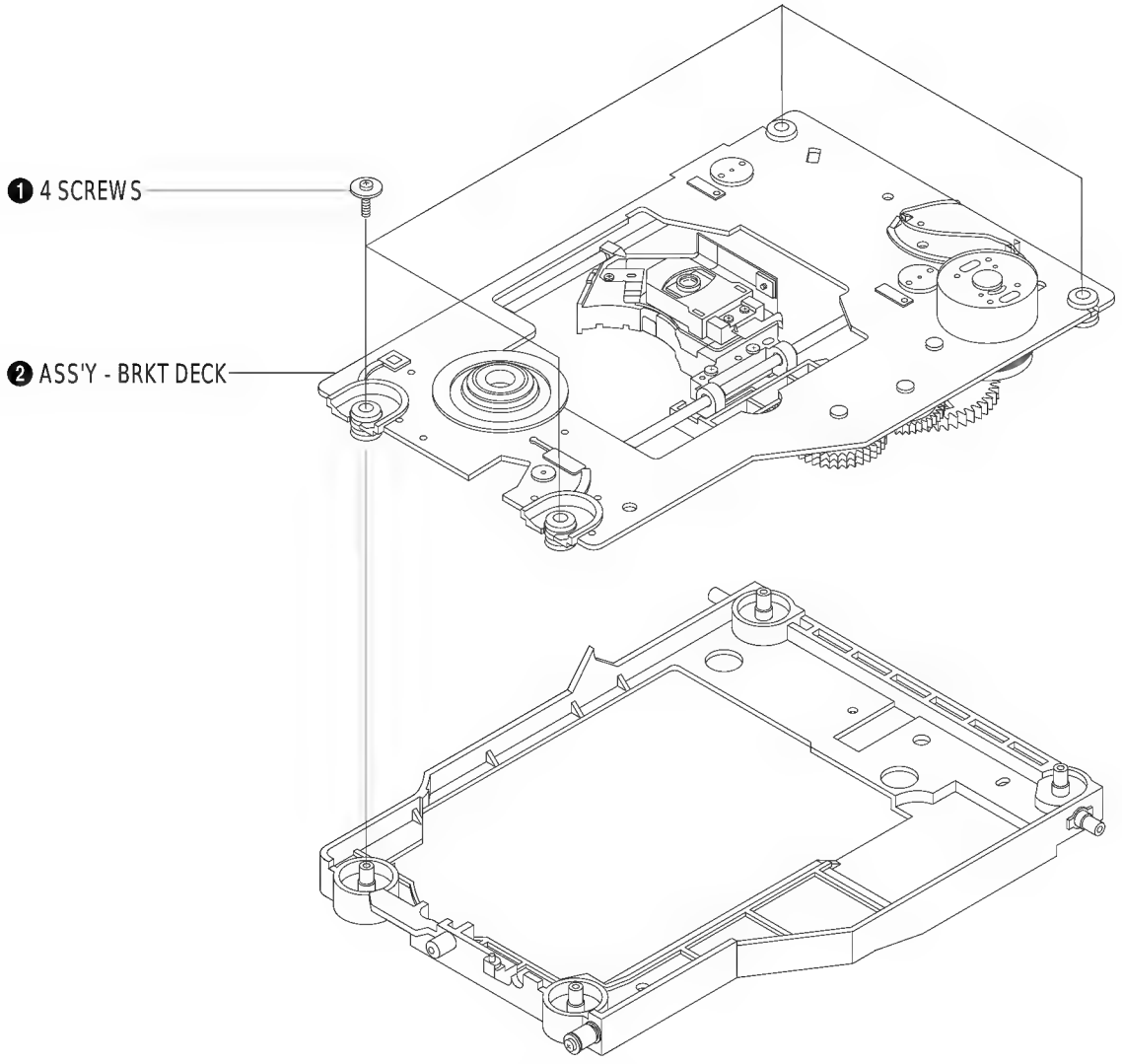


Fig. 5-11 Ass'y-Brkt Deck Removal

5-4-5 Ass'y- Deck Parts Removal

1) Remove 3 Screws ❶ and disassemble 3 Holder-Cams ❷.
2) Disassemble the Rack-Slide ❺ and Ass'y-Pickup ❻, 2 Screws ❹ while simultaneously removing the Shaft-P/U ❸.
3) Remove 3 Screws ❼ and disassemble the Ass'y-Motor Spindle ❽.
4) Remove the Washer-Plain ❾ and disassemble the Ass'y-Gear Feed AU/AL ❿.
5) Remove the Washer-Plain ⓫ and disassemble the Gear-Feed B ⓬.
6) Remove the Washer-Plain ⓭ and disassemble the Ass'y-Gear Feed CU/CL ⓮.

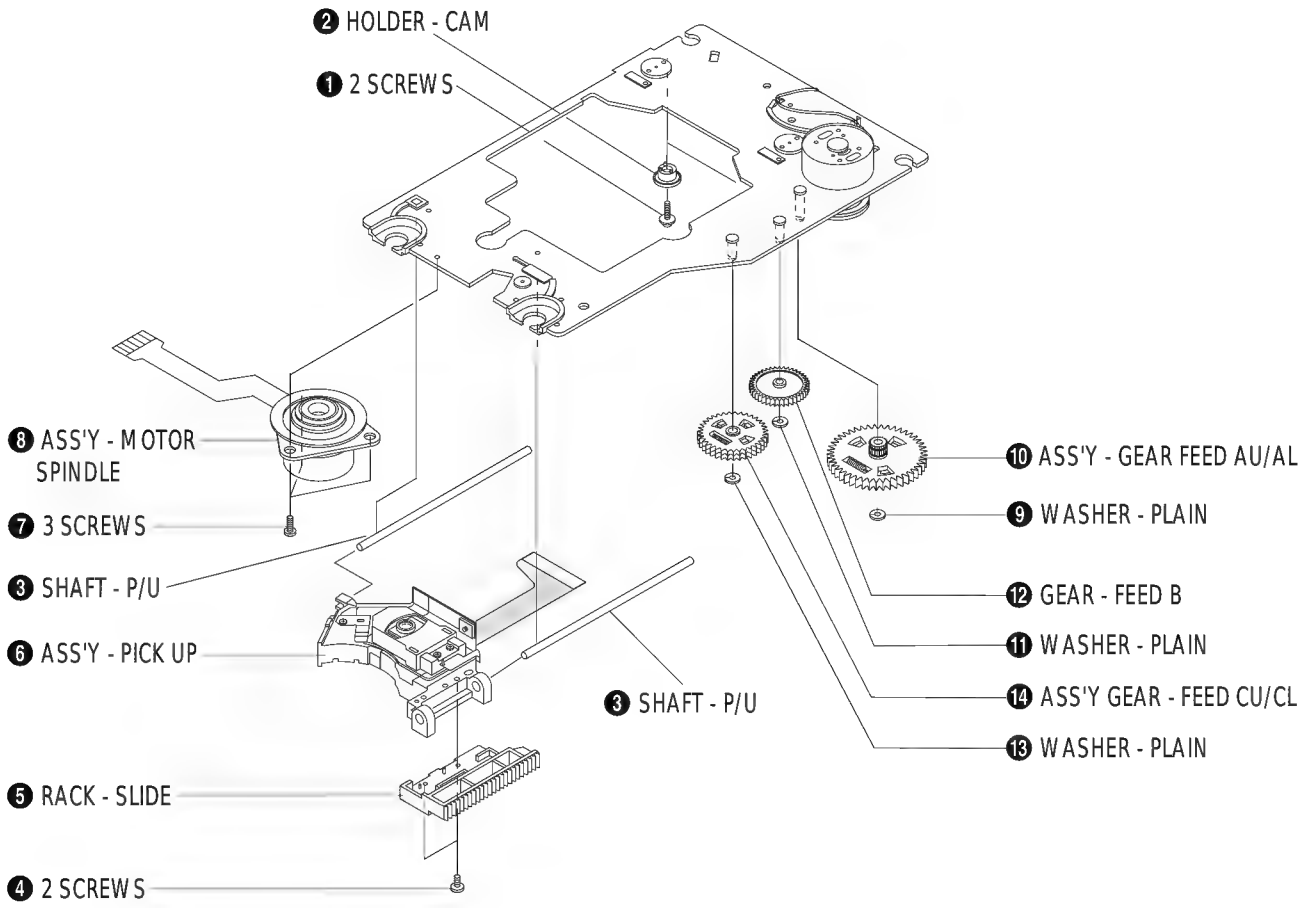

❷ HOLDER - CAM
❶ 2 SCREWS
❽ ASS'Y - MOTOR SPINDLE
❼ 3 SCREWS
❸ SHAFT - P/U
❻ ASS'Y - PICK UP
❺ RACK - SLIDE
❹ 2 SCREWS
❸ SHAFT - P/U
❿ ASS'Y - GEAR FEED AU/AL
❾ WASHER - PLAIN
⓬ GEAR - FEED B
⓫ WASHER - PLAIN
⓮ ASS'Y GEAR - FEED CU/CL
⓭ WASHER - PLAIN

Fig. 5-12 Ass'y- Deck Parts Removal

6. Circuit Descriptions

6-1 S.M.P.S.

6-1-1 Comparsion between Linear Power Supply and S.M.P.S.

6-1-1 (a) Linear

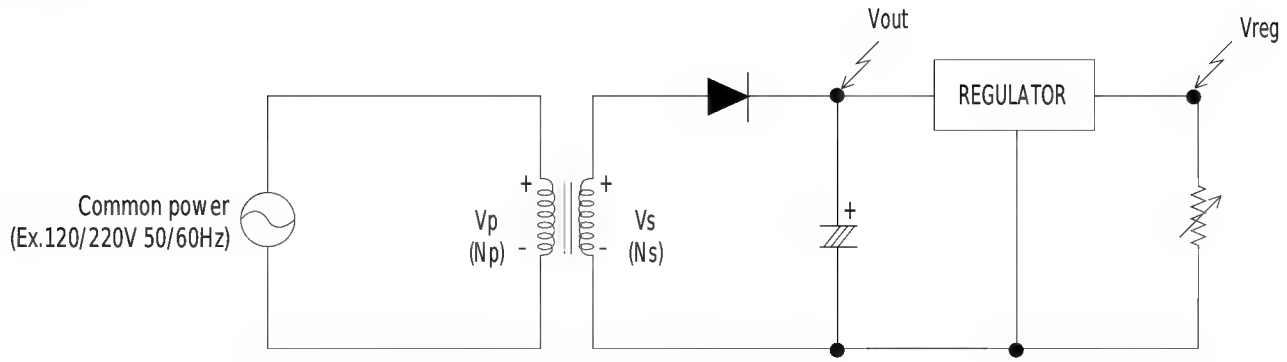


Fig. 6-1 Linear Power Supply

Waveform/Description

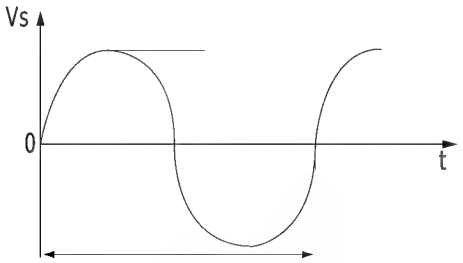


Fig. 6-2

Input : Common power to transformer (Vp).

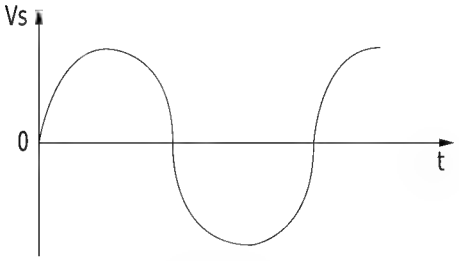


Fig. 6-3

The output Vs of transformer is determined by the ratio of 1st Np and 2nd Ns.
Vs = (Ns/Np) x Vp

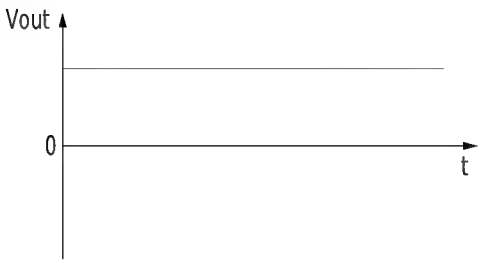


Fig. 6-4

Vout is output (DC) by diode and condensor.

Advantages and disadvantages of linear power supply

1) Advantages : Little noise because the output waveform of transformer is sine wave.

2) Disadvantages :
   ❶ Additional margin is required because Vs is changed (depending on power source). (The regulator loss is caused by margin design).
   ❷ Greater core size and condensor capacity are needed, because the transformer works on a single power frequency.

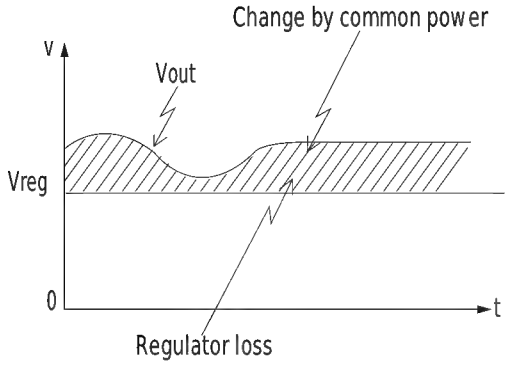


Fig. 6-5

6-1-1 (b) S.M.P.S. (Pulse width modulation method)

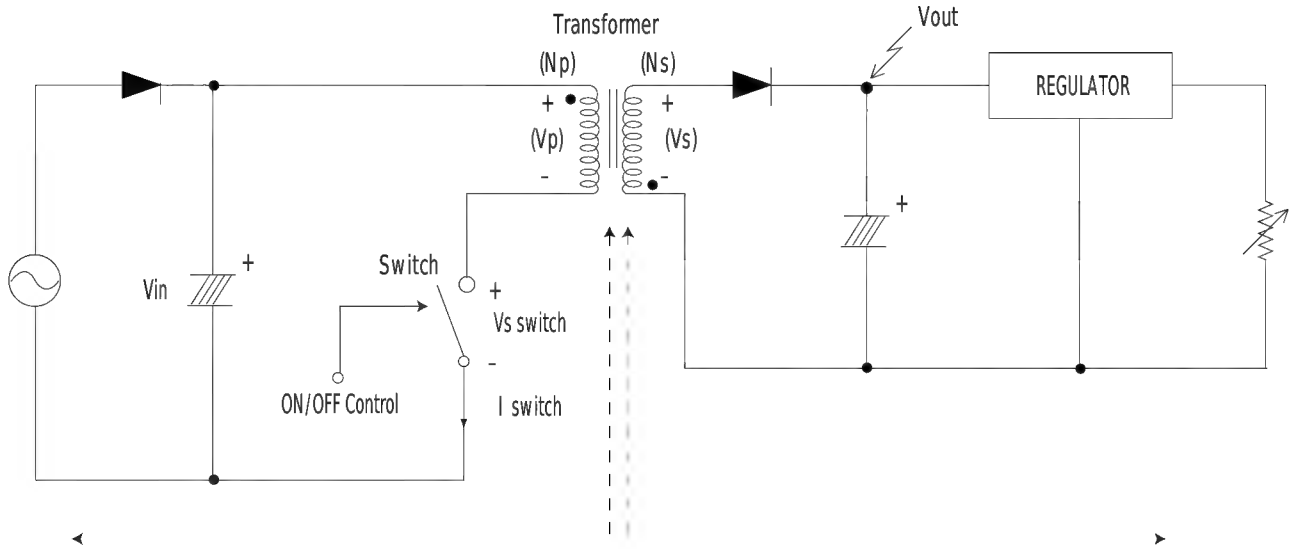


Fig. 6-6

Terms

1) 1st : Common power input to 1st winding.
2) 2nd : Circuit followings output winding of transformer.
3) f (Frequency) : Switching frequency (T : Switching cycle)
4) Duty : (Ton/T) x 100

6-1-2 Circuit description (FLY-Back PWM (Plise Width Modulation) Control)

6-1-2 (a) AC Power Rectification/Smoothing Terminal

1) PD01,PD02,PD03,PD04 : Convert AC power to DC(Wave rectification)
2) PE3 : Smooth the voltage converted to DC(Refer to VIN of Fig. 6-7)
3) PC01, PC02, PC10, PC11, PC12, PC13, PL01, PL02, PL03 : Noise removal at power input/output
4) PVA1 : SMPS protection at power surge input (PVA1 pattern open is to remove noise)
5) PR10 : Rush current limit resistance at the moment of power cord insertion.
   - ❶ Rush current = (AC input voltage x 1.414 - Diode drop voltage) / Pattern resistance + PL02,01 resistance + PC10 resistance + PR10) (AC230V based : approx. 26A)
   - ❷ Without PR10, the bridge diode might be damaged as the rush current increases.

6-1-2 (b) SNUBBER Circuit : PR15, PR16, PC04, PC05, PD11, PR17

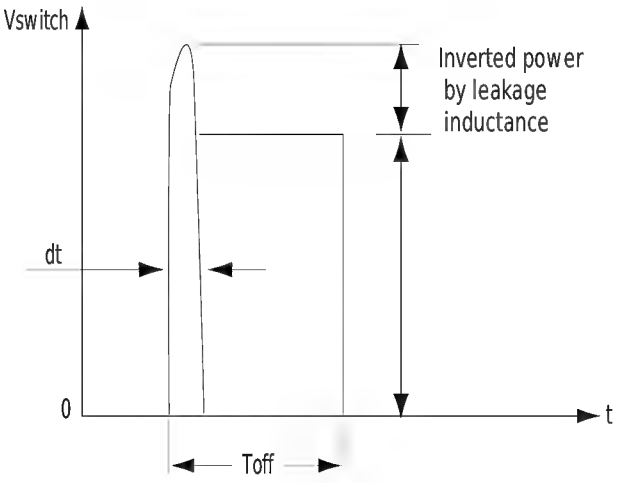


Fig. 6-7

1) Prevent residual high voltage at the terminals of switch during switch off/Suppress noise.
   High inverted power occurs at switch (PIC1) off, because of the 1st winding of transformer :
   (V= LI xdi/dt. LI : Leakage Induction)
   A very high residual voltage exists on both terminals of PIC1 because dt is a very short.

2) SNUBBER circuit protects PIC1 from damage through leakage voltage suppression by RC,
   (Charges the leakage voltage to PD11 and PC04, and discharges to PR15 and PR16).

3) PC05, PR17 : For noise removal

6-1-2 (c) PIC1 Vcc circuit

1) PR11, PR12, PR13, PR14 : PIC1 driving resistance (PIC1 works through driving resistance at power cord in)
2) PIC1 Vcc : PR18, PD12, PE6
   - ❶ Use the output of transformer as Vcc, because the current starts to flow into transformer while PIC1 is active.
   - ❷ Rectify to PD12 and smooth to PE6.
   - ❸ Use the output of transformer as PIC1 Vcc : The loads are different before and after PIC1 driving.
     (Vcc of PIC1 decreases below OFF voltage, using only the resistance due to load increase after PIC1 driving.)

6-1-2 (d) Feedback Control Circuit

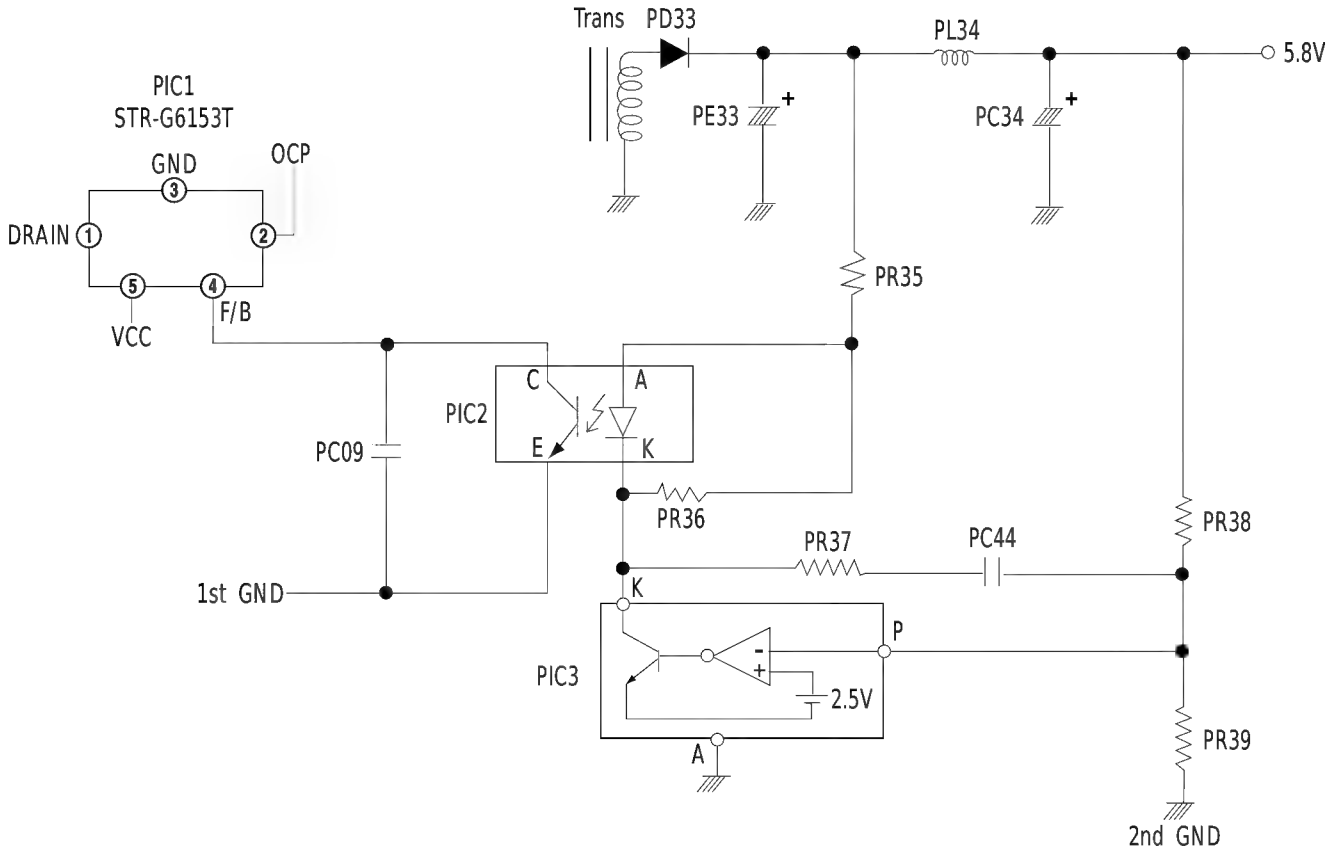


Fig. 6-8

1) F/B terminal of PIC1 determines output duty cycle.
2) C-E(Collector-Emitter) of PIC2 and F/B potential of PIC1 are same.

Operation descriptions

1) Internal OP-Amp '+' base potential of PIC3 is 2.5V and external "-" input potential is connected with PR38 and PR39 to maintain Vout of 5.8V. (Vout = ((PR36 x PR39) / PR39) x 2.5V)
2) If load of 5.8 V terminal increases(or AC input voltage decreases) and Vout decreases below 5.8V, then :
   PIC3 'P' potential down below 2.5V --> PIC3 A-K of base current down --> PIC3 of A-K current down --> PIC2 Diode current down --> PIC2 C-E current down --> PIC2 C-E voltage up --> PIC1 F/B voltage up --> Out Duty up --> Transformer 1st current up --> Transformer 1st power up --> Vout up --> Maintain Vout 5.8V
3) If load of 5.8 V terminal decreases(or AC input voltage rises) and Vout rises above 5.8V, then :
   Reverse sequence of the above description --> Duty down --> Vout down --> Maintain 5.8V (i.e., the feedback to maintains 5.8V).
   ❶ PR35, PR36 : Reduce 5.8V overshoot
   ❷ PR37, PC44 : Prevent PIC3 oscillation(for phase correction)
   ❸ PC09 : Adjust feedback response rate

6-1-3 Internal Block Diagram

6-1-3 (a) Internal Block Diagram of S.M.P.S. Circuit

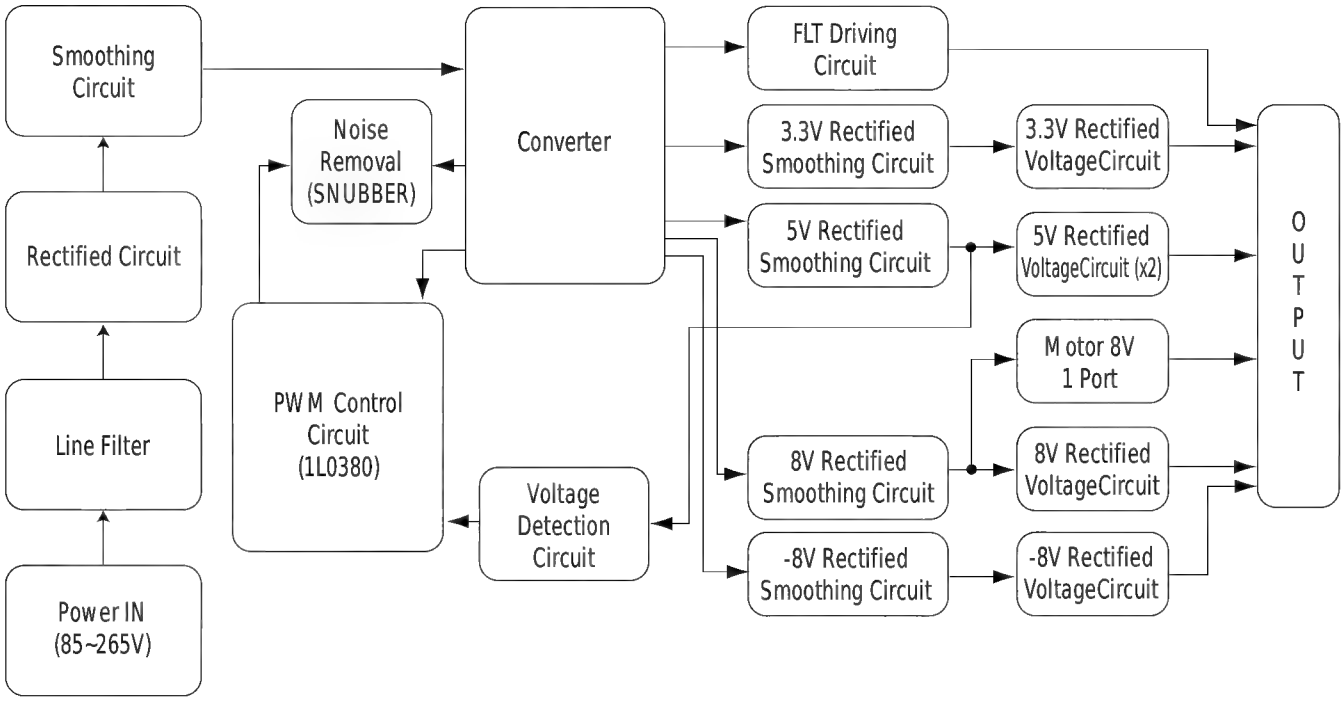


Fig. 6-9

6-1-3 (b) PIC1 (STR-G6153T) Internal Block Diagram

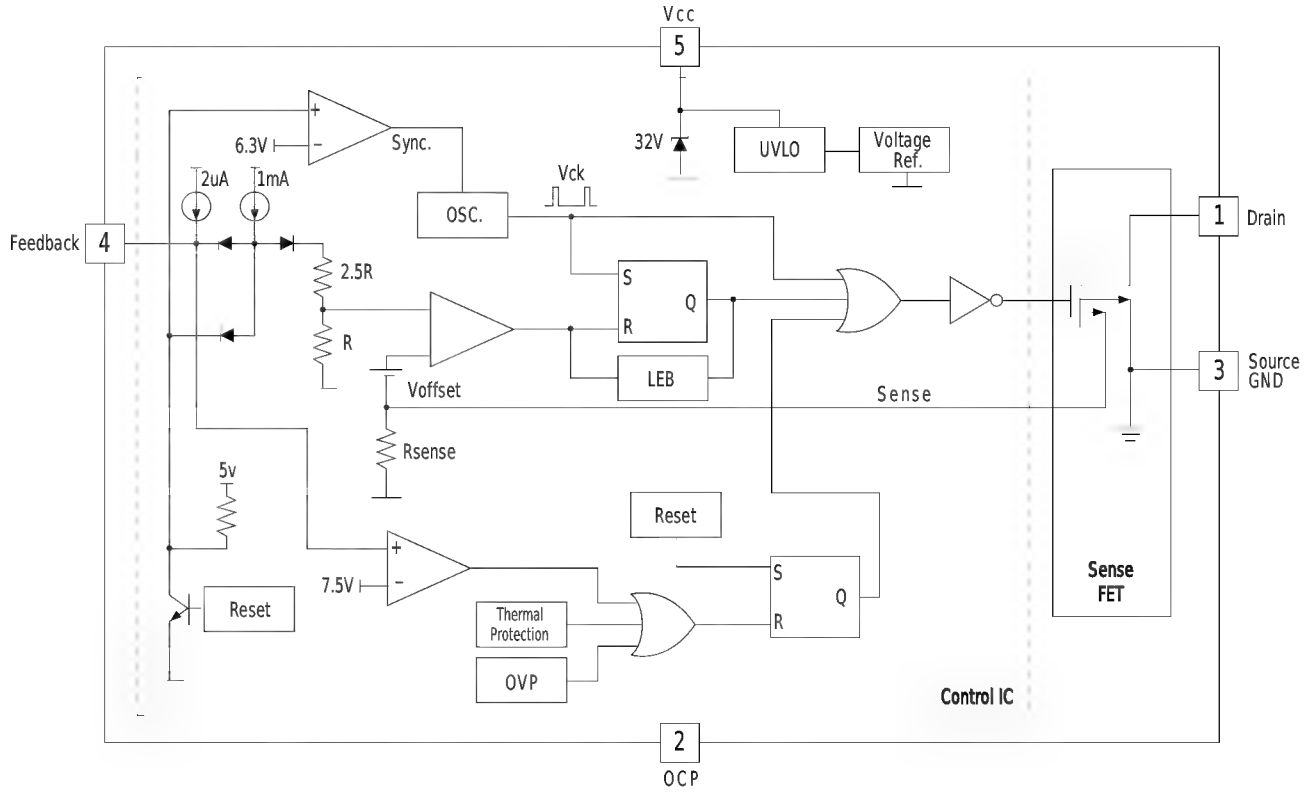


Fig. 6-10

6-2 RF

6-2-1 RIC1 (KS1461)

KS1461 is combined with KS1452 and KS1453 as bipolar IC developed for DVD SERVO system.
Main features include DVD waveform equalizing, CD waveform equalizing, focus error signal generation, 3-beam tracking error signal generation, DPD 1-beam tracking error, defect, envelope, MIRR output, etc. after receiving the pick-up output converted into I/V.

6-2-1 (a) Basic Potentiometer

KS1461 uses a single power method and each circuit is based on V of 2.5V.
V (Pin 12, 20, 24, 67) terminal is needed for IC, which uses the peripheral V.

6-2-1(b) RF signal

Fig. 6-11 shows the flow of signal generated by the pick-up.
A, B, C, D signals detected from pick-up are converted in to RF signal(A+B+C+D) via RF summing AMP.

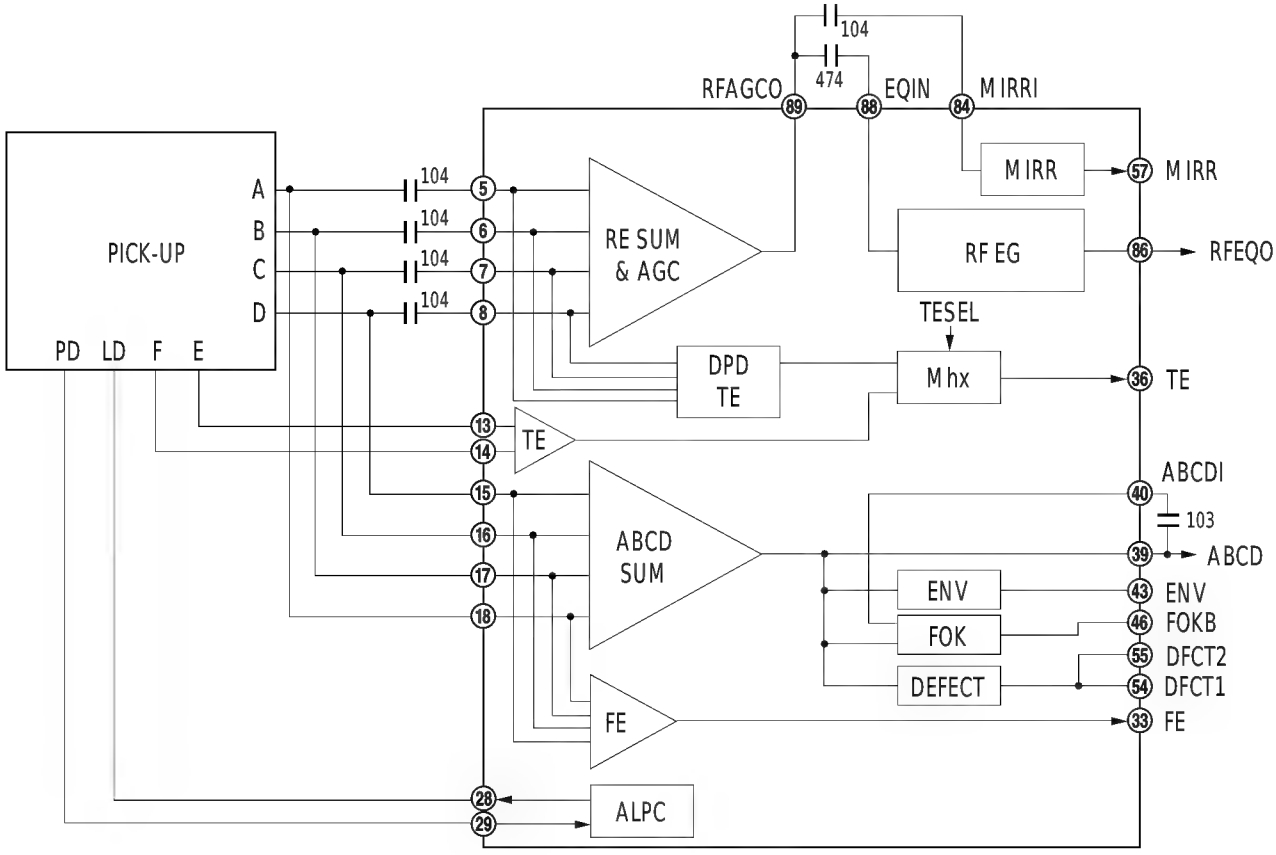


Fig. 6-11

Fig. 6-12 shows the waveform-equalizing block diagram for the RF signal.
It outputs to EQout (Pin 86) terminal by initially changing switching AMP gain of DVD and CD, and then adjusting the level in RF SUM & AGC. It controls RF SUM & AGC gain by means of Pin 89-95 and interfaces with PWM signal, (output from PWM terminal of KS1453, via low-pass filter to adjust boost gain and peak frequency.
EQout terminal is connected with EQin (Pin 86).

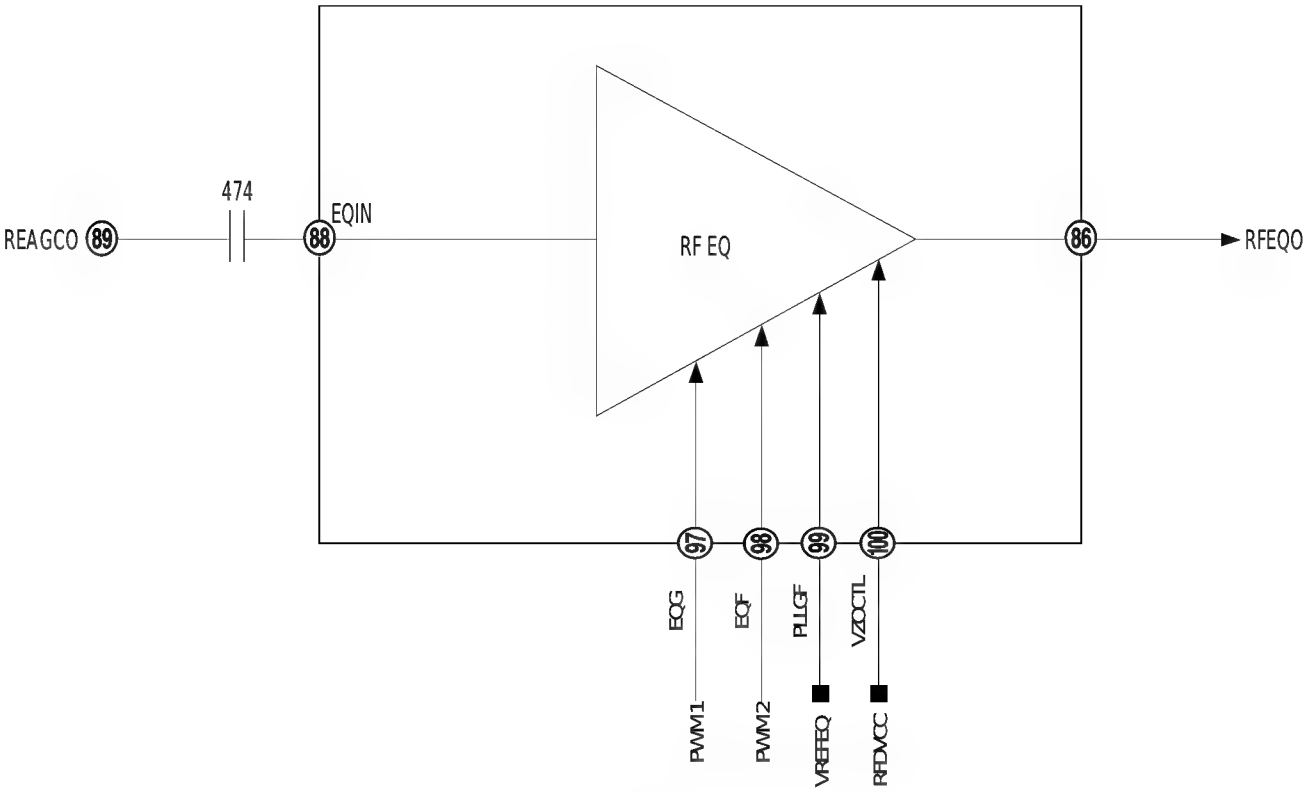


Fig. 6-12

The control parameters of DVD EQ and CD EQ are as follows.

1) DVD CD EQ control parameter

❶ EQG (Pin 97) : Changes the gain of peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DC via low-pass filter.

❷ EQF (Pin 98) : Changes the peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DVD via low-pass filter.

6-3 System Control

6-3-1 Outline

The main micom peripheral circuit is composed of 16bit Micom (MIC1 ; TMP93CM41F), 8M EPROM (MIC8 ; AM27-C080) for Microcode and data save, 512 byte EE-PROM (MIC5 ; KS24C020) for permanent storage of data needed at power off, MIC4 (74AC573) to latch only address in the bus where address and data are mixed, address decoder (MIC7 ; 74HC00) for selection of ex-ternal device chip and 20MHz clock oscillator for micom operation. The Micom (MIC1 ; TMP93CM41F) mounted in main board analizes the key commands of front panel or instructions of remote control through communication with Micom (FIC1 ; LC86P6232) of front and controls the devices on board to execute the corresponding commands after initializing the devices connected with micom on board at power on.

6-3-2 Block Diagram

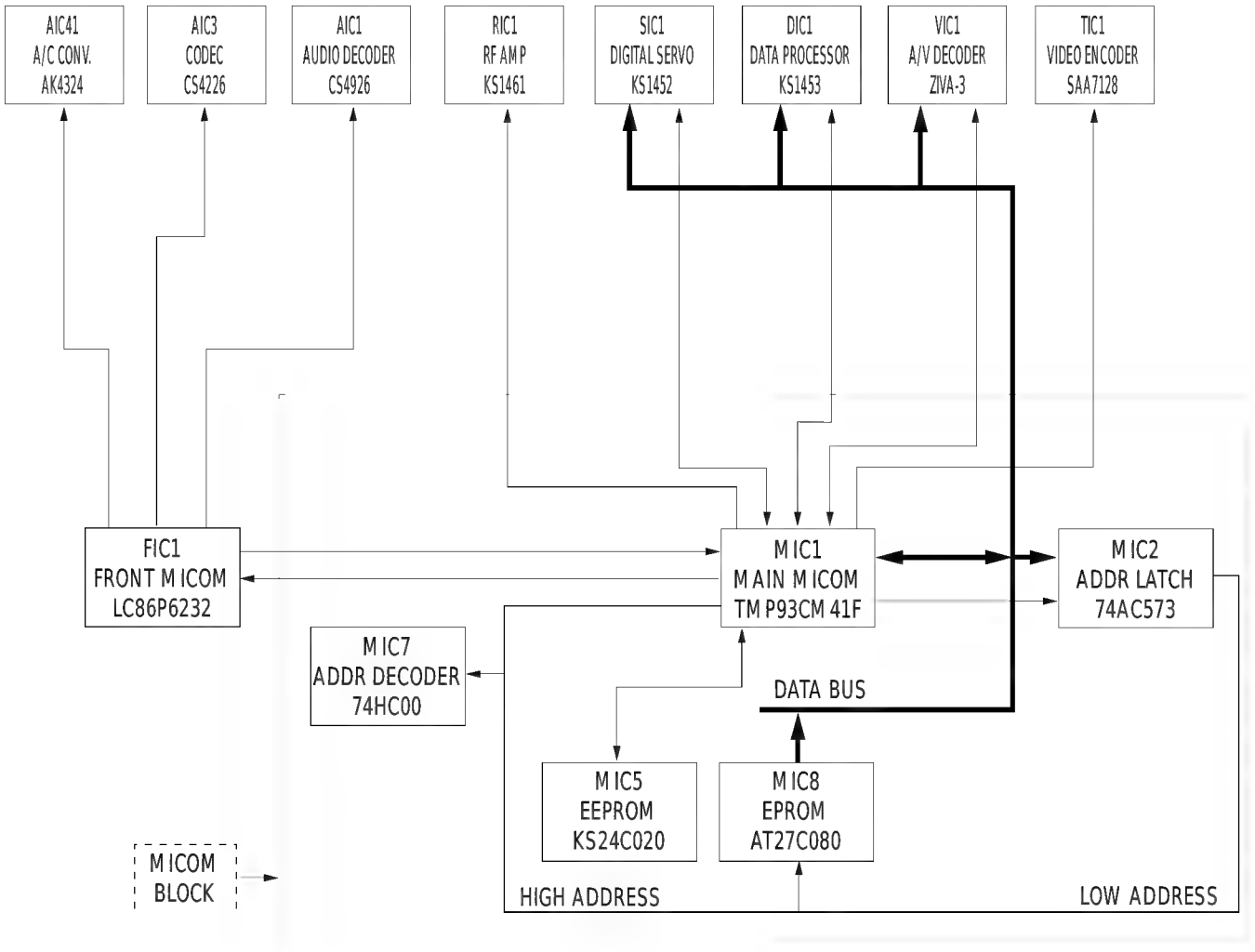


Fig. 6-13

6-3-3 Waveform Description

When micom accesses each device sharing bus, it falls the chip select signal of corresponding chip to (CS2:MIC8-22, /DSPCS:DIC1-2, /DVDCS:VIC1-206/SRVCS:SIC1-10) 0 (Low) before trial.
So to speak, the bus is used by time-division as shown in Fig 6-14, 6-15, 6-16.
Two and more devices can't be accessed simultaneously.

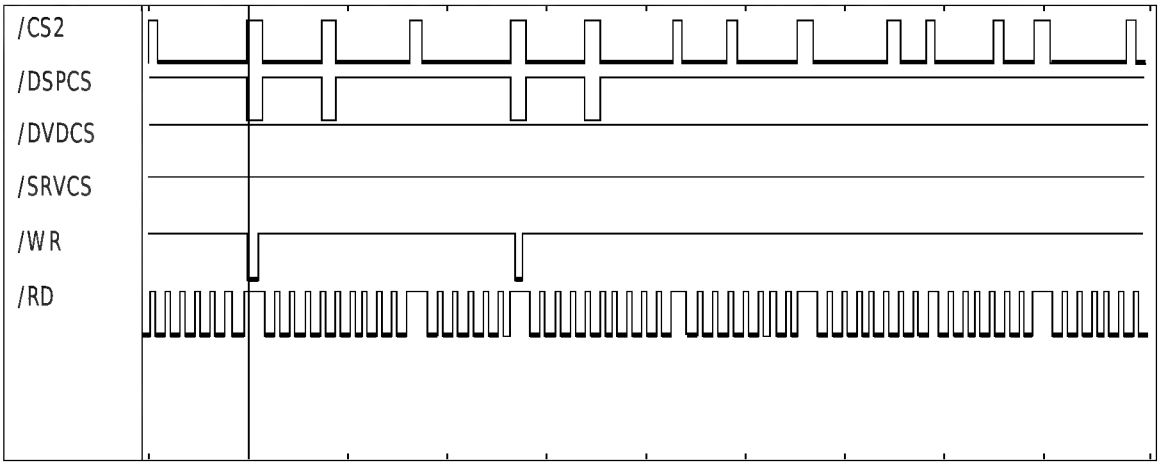


Fig. 6-14

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

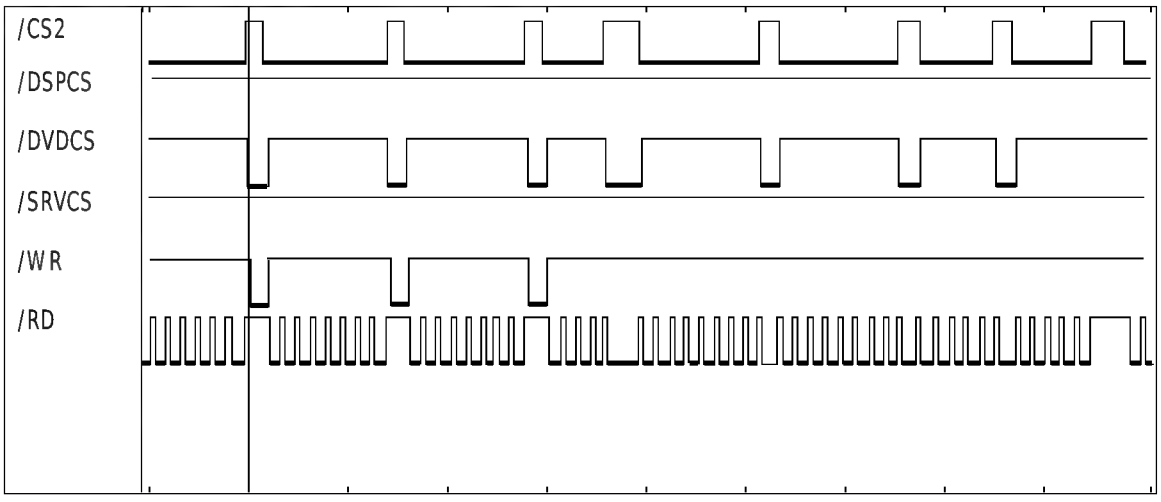


Fig. 6-15

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

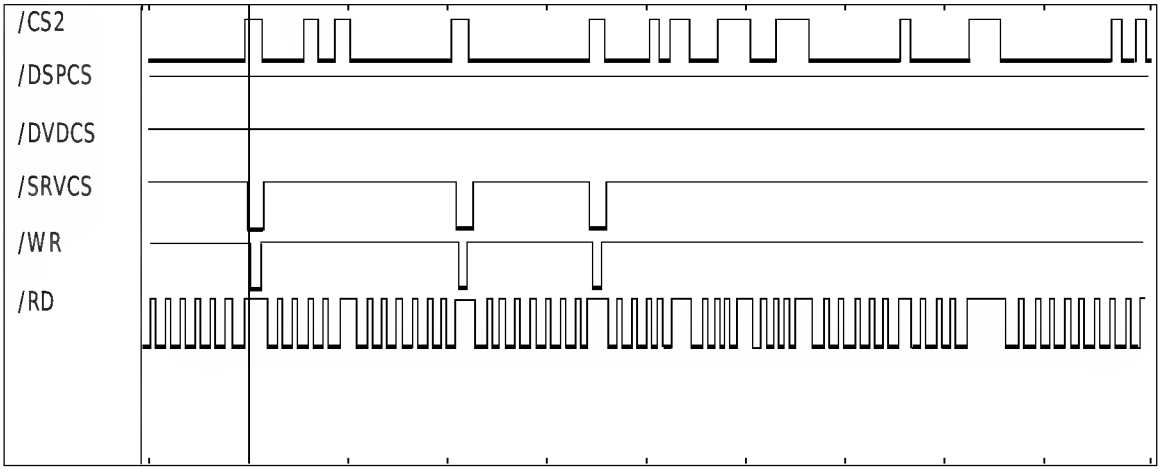


Fig. 6-16

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

6-4 Servo

6-4-1 Outline

SERVO system of DVD is divided into Focusing SERVO, Tracking SERVO, SLED Linked SERVO and CLV SERVO (DISC Motor Control SERVO).

1) Focusing SERVO
Focuses the optical spot output from object lens onto the disc surface. Maintains a uniform distance between object lens of Pick-up and disc (for surface vibration of disc).

2) Tracking SERVO
Make the object lens follow the disc track in use of tracking error signal (created from Pick-up).

3) SLED Linked SERVO
When the tracking actuator inclines outwardly as the object lens follows the track during play, the SLED motor moves slightly (and counteracts the incline).

4) CLV SERVO (DISC Motor Control SERVO)
Controls the disc motor to maintain a constant linear velocity (necessary for RF signal).

6-4-2 Block Diagram

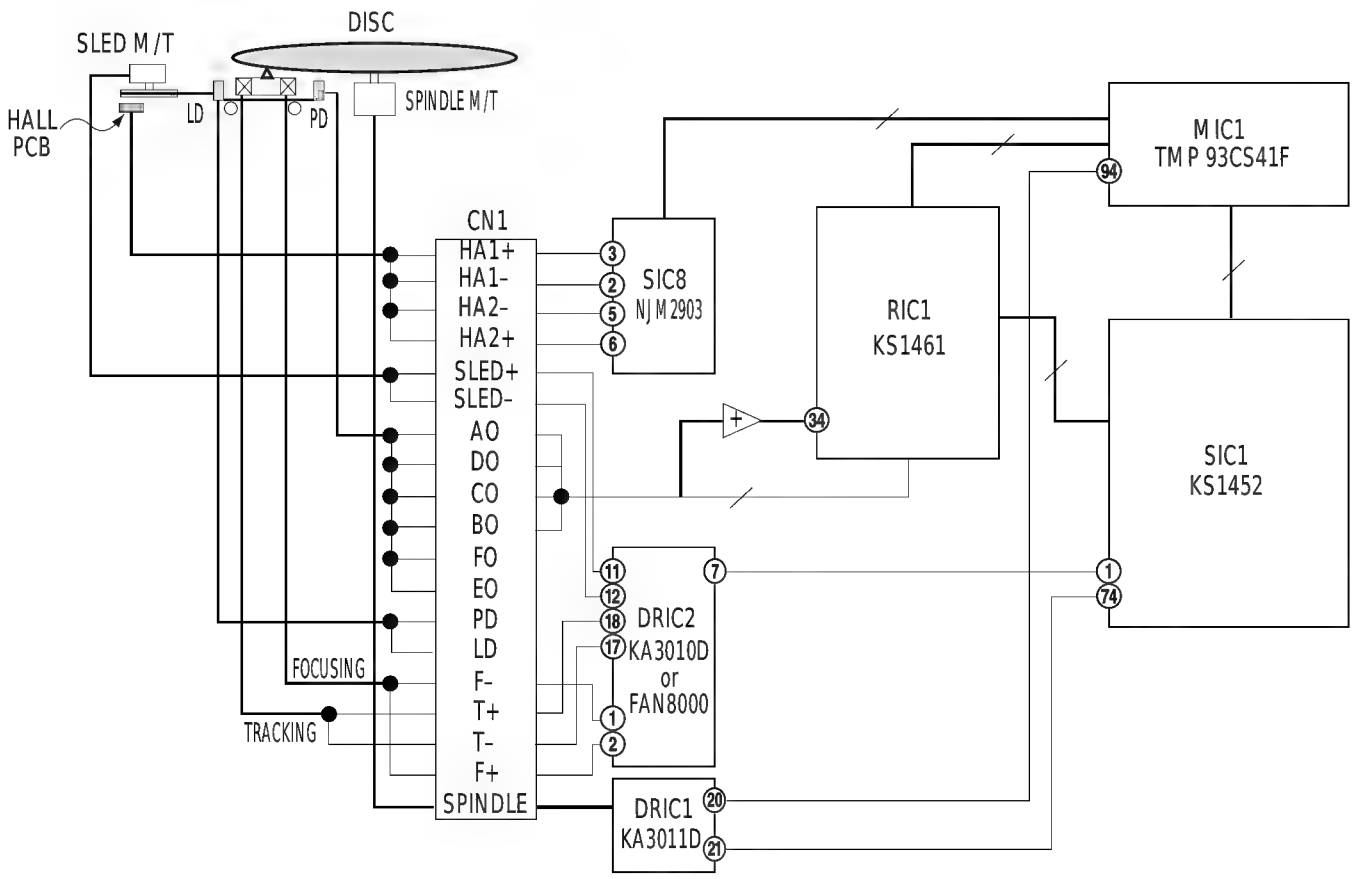


Fig. 6-17

6-4-3 Operation

1) FOCUSING SERVO

(1) FOCUS INPUT

The focus loop is changed from open loop to closed loop, and the triangular waveform moves the object lens up and down (at pin 75 of SIC1 during Focus SERVO ON.) At that time, S curve is input to pin 65 of SIC1.

ABAD (pin 39 of RIC1) signal, summing signal of PD A, B, C, D, is generated, and zero cross(2.5V) point occurs when S curve is focused and ABAD signal exceeds a preset,constant value. The focus loop is changed to closed loop, and the object lens follows the disc movement, maintaining a constant distance from the disc. (these operations are same in CD and DVD).

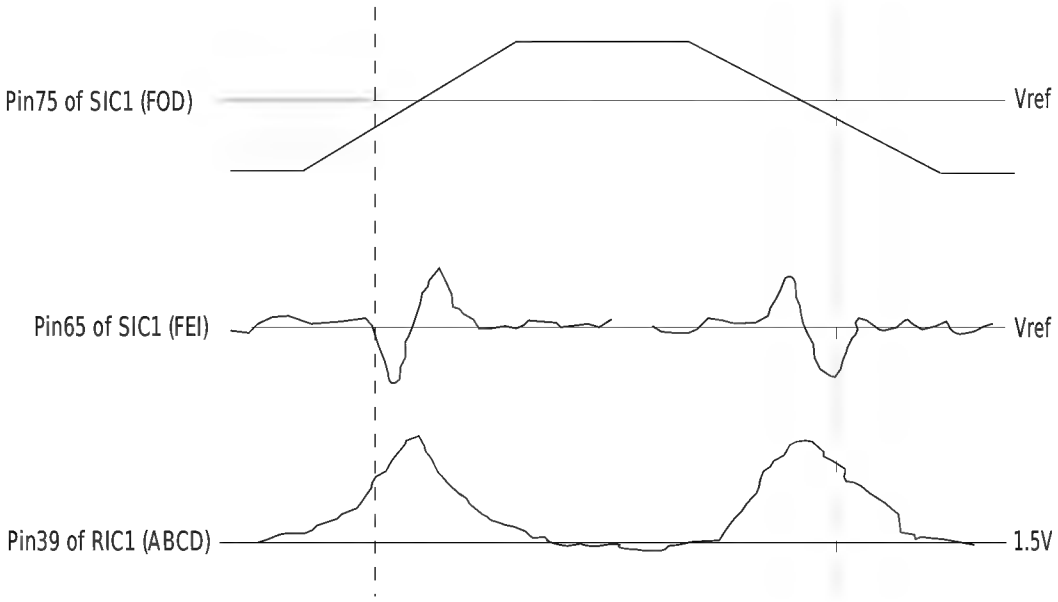


Fig. 6-18

(2) PLAY

When focus loop closes the loop during focus servo on, both pin 65 and pin 75 of SIC1 are controlled by VREF voltage (approx. 2.5V), and pin 1, 2 of DRIC2 are approximately 4.5V.

2) TRACKING SERVO

(1) NORMAL PLAY MODE

❶ For DVD

Composite : The signal output from PD A, B, C, D of Pick-up, the tracking error signal (pin36 of RIC1) uses the phase difference of A+C and B+D in RIC1, and inputs to terminal 64 of SIC1. Then, it is output to SIC1 pin 76 via digital equalizer, and applied to the tracking actuator through DRIC2.

Pins 17, 18 of SIC1 are controlled by VREF(approx. 2.5V) during normal play.

Meanwhile, DVD repeats the track jump from 1 to 4 in inner direction at normal play (because data- read speed from disc is faster than data output speed on screen).

❷ For CD, VCD

Receive the signal output through E, F of Pick-up, from RIC1. The tracking error signal is similar to DVD.

(2) SEARCH Mode :

Search mode : Fine seek,(Moving the tracking actuator slightly little below 255 track) and coarse search, moving much in use of sled motor. The coarse search will be described in sled linked servo and now, the fine seek is explained shortly.
If the object lens is located near target, cut off the tracking loop and give the control signal as many as desired count to move the tracking actuator via SIC1 pin 76 terminal(TRD).

3) SLED LINKED SERVO

- Normal play mode
  Move SLED motor slightly by means of PWM signal in SIC1 pin 73, as the tracking actuator moves along with track during play. Control to move the entire Pick-up as the tracking actuator moves.

- Coarse serach mode
  In case of long-distance search (such as chapter serach), SIC1 uses sled FG (SIC8 pin 1, 7, which is generated) by rotation of sled motor via hall PCB. Then, read ID and compute the existing track count after input of next track. If the existing track count is within fine seek range, tracking begins using fine seek.

4) CLV SERVO(DISC MOTOR CONTROL SERVO)

Input RF signal (from Pick-up) to SIC1 pin59. Detect SYNC signal from RF in SIC1, and output PWM signal to SIC1 pin 55 for constant linear velocity.

6-5 DVD Data Processor

6-5-1 Outline

DIC1(KS1453) performs Sync detection, EFM/EFM demodulation and error correction and Spindle motor control (CLV control) after inputting sliced EFM signal of RF signal at disc playback and EFM read clock (PLCK) signal generated from PLL. Outputs data which converted to the last audio and video from A/V decoder(VIC1). KS1453 uses external memory(4M DRAM) as buffer as well as for error correction and carries out Variable Bit Rate transfer function. VBR function uses the external buffer as buffer to absorb the difference of transfer rate occurring because the transfer rate of disc playback is faster than data transfer rate demanded by A/V decoder(Video/Audio Signal Process Chip).
In case of general disc refresh, the memory is almost filled up periodically. It is because Write rate to memory after disc playback and signal process is faster than Read of A/V decoder. When the memory is filled, this status is reported by interrupt to main micom, which controls the servo to kick back the pick-up to the previous track after memorizing the last data read from disc until now. It takes some times to jump to the previous track and return to the original(jump location) again. The memory will have an empty space because A/V decoder reads out data of memory.
When the memory has an empty space, where data can be processed and written and the pick-up correctly gets to the original location(before kick back location) again, it reads data again avoids the interrupt of data read previously. The basic operation repeats to perform as described above.

6-5-2 Block Diagram

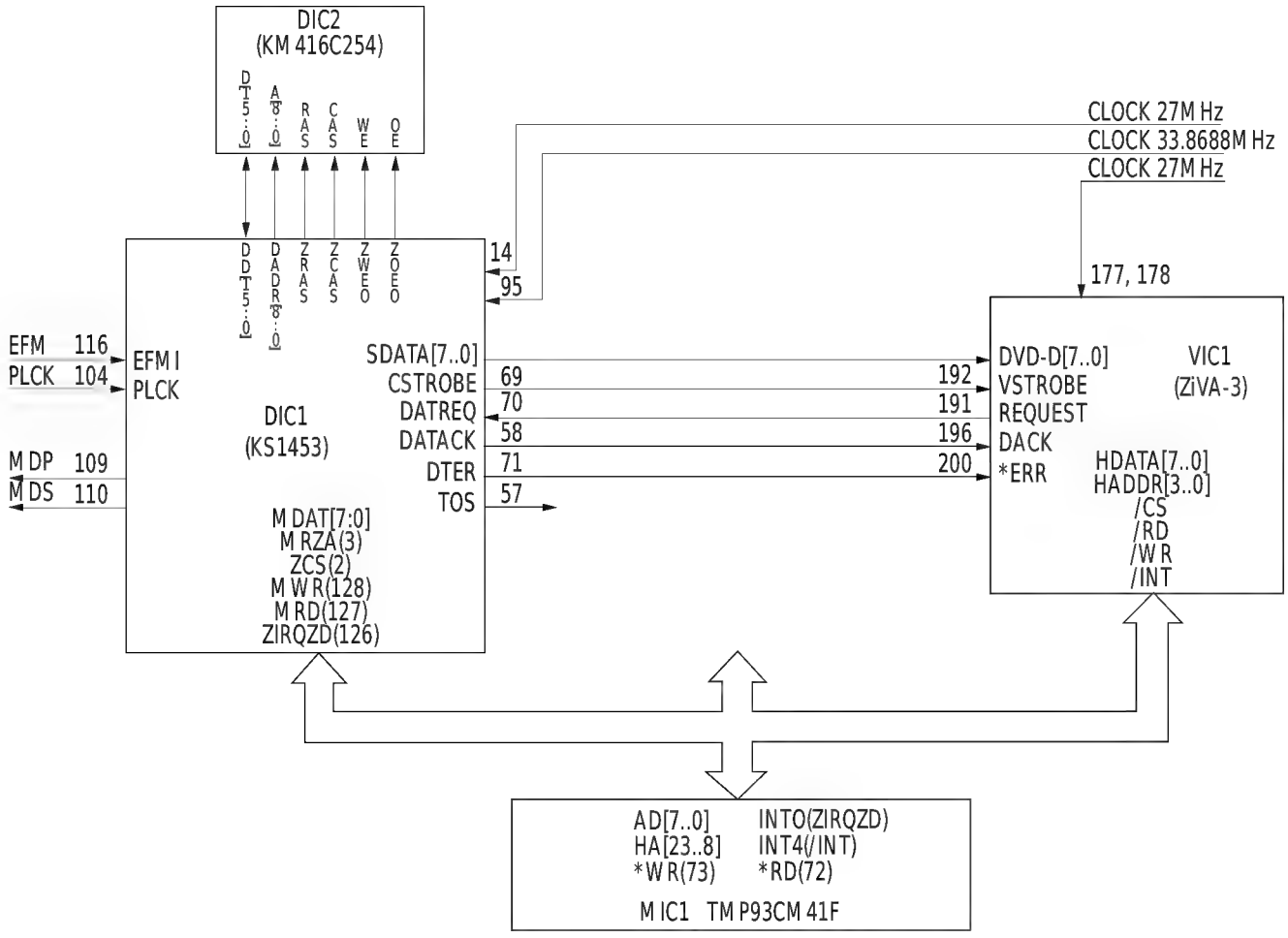


Fig. 6-19

6-5-3 Waveform Description

It measures the timing that data processed in DIC1 at DVD playback.

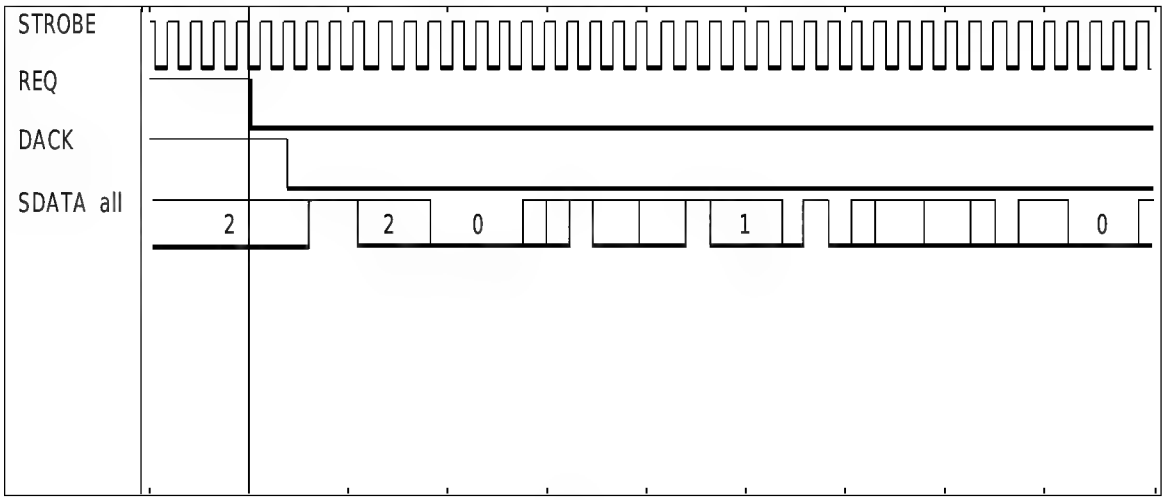


Fig. 6-20

- CH1 : STROBE (DIC1-69, CLOCK)
- CH2 : REQ (DIC1-70, DATA REQUEST)
- CH3 : DACK (DIC1-58, DATA ACKNOWLEDGE)
- CH4 : SDATA (DIC1-60~67, DATA)

6-6 Video

6-6-1 Outline

TIC1 sends VSYNC and HSYNC to VIC1(A/V decoder) and receives 8bit video data.
TIC1 does RGB encoding, copy guard processing and D/A conversion of 8bit video data inputted from VIC1(A/V decoder) by control of MIC1(Micom).
Video signal converted into analog signal is outputted via amplifier of analog part.

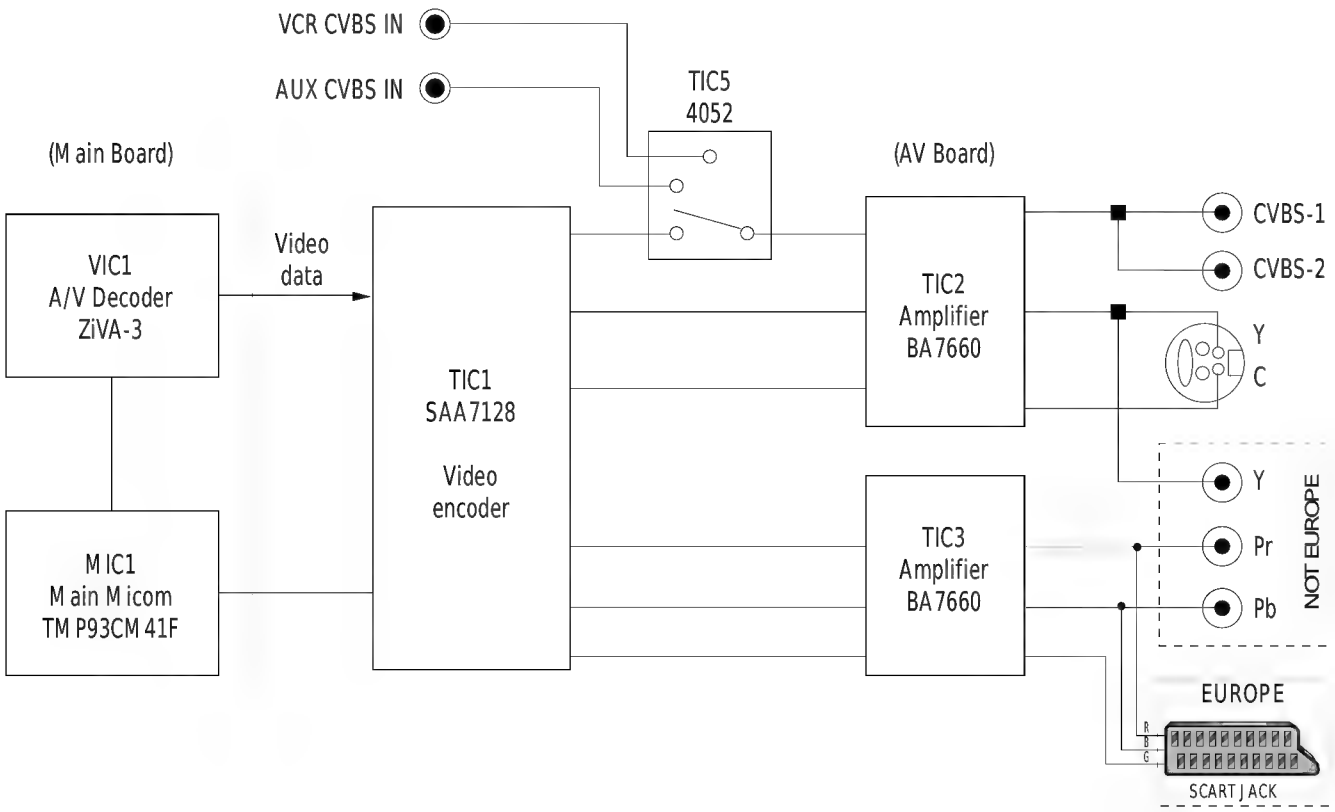


Fig. 6-21 Video Output Block Diagram

6-6-2 NTSC/PAL Digital Encoder (TIC50 : SAA7128)

TIC1 inputted from pin4 with 27MHz generates HSYNC and VSYNC which are based on video signal. Each HSYNC and VSYNC outputted from Pin8 and Pin7 are inputted to Pin157 and Pin158 of A/V decoder VIC1(ZIVA-3). VIC1 is the synchronous signals with the video signal and control the output timing of 8bit video signal of ITU-R601 format. (Pin180, 182, 184 ~ 189 (MSP))
8bit data is inputted to Pin9(MSB) and Pin16 of TIC1 and the inputted data is demuxed with each 8bit of Y/R-Y/B-Y. The separate signal is encoded to NTSC or PAL by control of MIC1. The above signals, that is CVBS (Composite Video Burst Synchronized)(Pin30), S-Video (Y:Pin27, C:Pin24), Y/Pb/Pr(Pin27/Pin29/Pin23) and GB(Pin26/Pin29/Pin23). In course of encoding, 8bit data can extend to 10bit or more. To convert the extended data to quantization noise as possible, TIC1 adopts 10bit D/A converter. TIC1 perform video en-coding as well as copy protection.

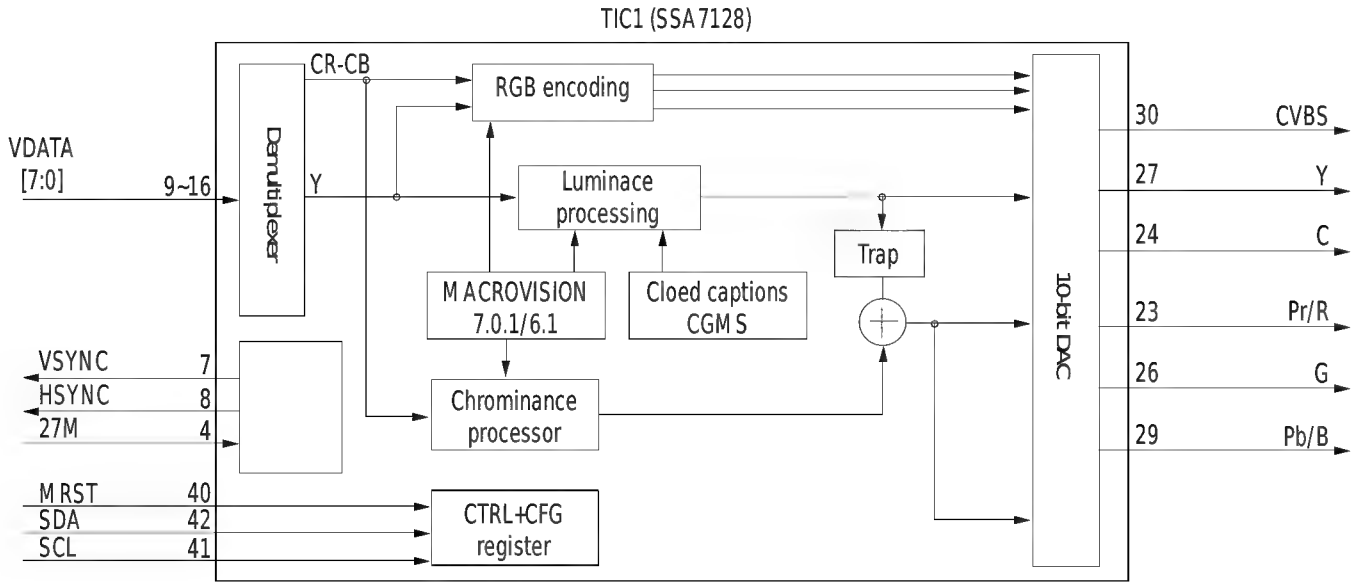


Fig. 6-22

6-6-3 Amplifier (TIC2, TIC3 : BA7660)

TIC2 and TIC3 are 6dB amplifier. Based on CVBS signal, the final output level must be 2Vpp without 75ohm terminal resistance. Because the level of video encoder output is only 1.1Vpp, the level is adjusted with the special amplifier. When mute of pin1 is high active, if the pin is floating and connected to power, the output signal is never outputted. CVBS, Y, C, Pr and Pb outputted from video encoder are inputted to TIC2 (Pin7, Pin2 and Pin4) and TIC3 (Pin7, Pin2 and Pin4) respectively and outputted from TIC2 (Pin10, Pin15 and Pin13) and TIC3 (Pin10, Pin15 and Pin 13). Pin9, Pin12 and Pin14 of TIC3 and TIC2 are feedback pin to SAG compensation(DC characteristic compensation of signal). Resistance (TR201 ~ TR206, TR303 ~ TR308) which is inserted to input terminal is bias resistance for input offset.
The signal to which gain is adjusted by amplifier is outputted from jack via 75ohm.

6-7 Audio

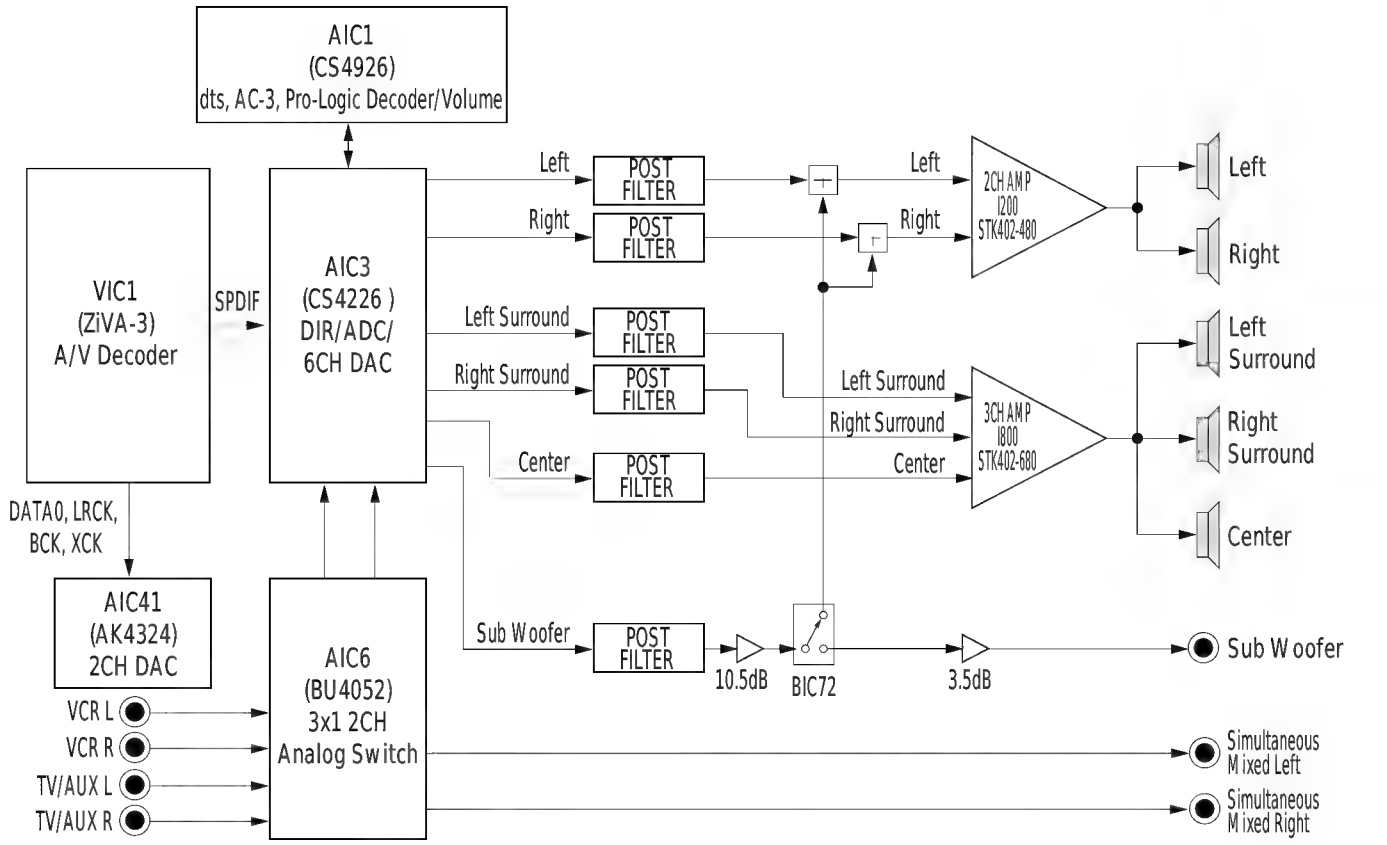


Fig. 6-23 Audio Output Block Diagram

6-7-1 Audio 5.1 CH. DSP

1) Processing the Disc signal

If the IEC958 Digital output (Z_IEC958) from the ZiVA-3(VIC1 : A/V Decoder) becomes the input for the pin 42 of CS4226(AIC3 : CODEC), the CS4226(AIC3 : CODEC) executes the PLL circuits to generate LRCK, SCK, and MCK, which are sent to the CS4926(AIC1 : DSP) along with the audio data.
The CS4926(AIC1 : DSP) downloads the Microcode of the W27C020(AIC2 : 2M EPROM), and the micom control executes the AC-3 decoding process according to the audio information of the disc.
The decoded data(AIC1-39,40,41) is then sent to the CS4226(AIC3 : CODEC), and this CS4226(AIC3 : CODEC) becomes the analog output via the D/A Converting process (AIC3 - pin 21, 22, 23, 24, 25, 26).

2) Processing the external input signal

The VCR audio input and the TV/AUX audio input is switched in the 4052(AIC6 : Analog Switch) to be fed to the (AIC3 - pin 10, 11, 12, 13) of the CS4226(AIC3 : CODEC), which is then A/D converted.
The CS4226(AIC3 : CODEC) executes the PLL circuit to generate the LRCK, SCK, and MCK, which are sent to the CS4926(AIC1 : DSP) along with the data.
The CS4926(AIC1 : DSP) downloads the Microcode of the W27C020(AIC2 : 2M EPROM), and audio processing such as DOLBY PRO-LOGIC / NATURAL / CONCERT / STADIUM are applied according to the users selection.
The processed data(AIC1-39,40,41)is then sent to the CS4226(AIC3 : CODEC), where the CS4226(AIC3 : CODEC) D/A Converts to output Analog signals (AIC3 - pin 21, 22, 23, 24, 25, 26).

6-7-2 Audio 5.1 CH. Analog

The Analog signals D/A converted in the CS4226(AIC3 : CODEC) passes through a Low Pass Filter (BIC15, BIC35, BIC55 peripheral circuit), which are Level Amplified (BIC17, BIC37, BIC57 peripheral circuit), and then fed to the AMP Board.
On the other hand, the Sub Woofer signal that passed the BIC72 is sent to Line Out if the SUB WOOFER is "ON" in the Speaker Setup Mode.
However, if the configurations are set to the CONFIG2 Mode (Front Speaker is Large, Center Speaker, Surround Speakers are Small), and the SUB WOOFER is "OFF" in the Speaker Setup Mode, the CONFIG2 signal at the Micom is set to "LOW", mixing the Sub woofer Signal at the Front Left, and Front Right.

6-7-3 Audio 2 CH.

This is the circuit for stereo signals output.
If the Control Signals (SEL_IN_A, SEL_IN_B) sent to the 4052(AIC6 : Analog Switch) from the Micom are "00", the audio signal of the DVD is selected, "10" selects the VCR Audio, and "01" selects the AUX Audio, which are sent to the output of 4052(AIC6 : Analog Switch) pin 3, 13.
The signals explained above are also sent to the CODEC IC CS4226 to be A/D CONVERTED, and are also sent to the Line Out of the Rear Panel.

6-7-4 AMP.

1) Power Amp

The STK402-480, STK402-680 are Hybrid IC that amplifies the Analog signals.
The Left and Right of the analog signals are fed to pin15 and pin19 of the STK402-480, Center, Left Surround and Right Surround signals to the pin15, pin19, and pin21 of the STK402-680. Left and Right Signals with 30dB gain comes out from pin 9, 10, 11, 12 of STK402-480, and the Center, Left Surround, Right Surround signals with equal gain outputs could be found in pin 9, 10, 11, 12, 22, 23 of the STK402-680, which could be heard through the speakers.

2) Relay Operation

This operation is to protect the speakers from the power on/off pop noise and for the protect mode.
The L and R of Front passes the L251, Center the L551, and the Surround passes the L851, which is connected to the speaker. The Relay of each connection is connected to the Base of Q251, Q551, and Q851 respectively, controlled by the on/off signal from the micom.

3) Protection Circuit

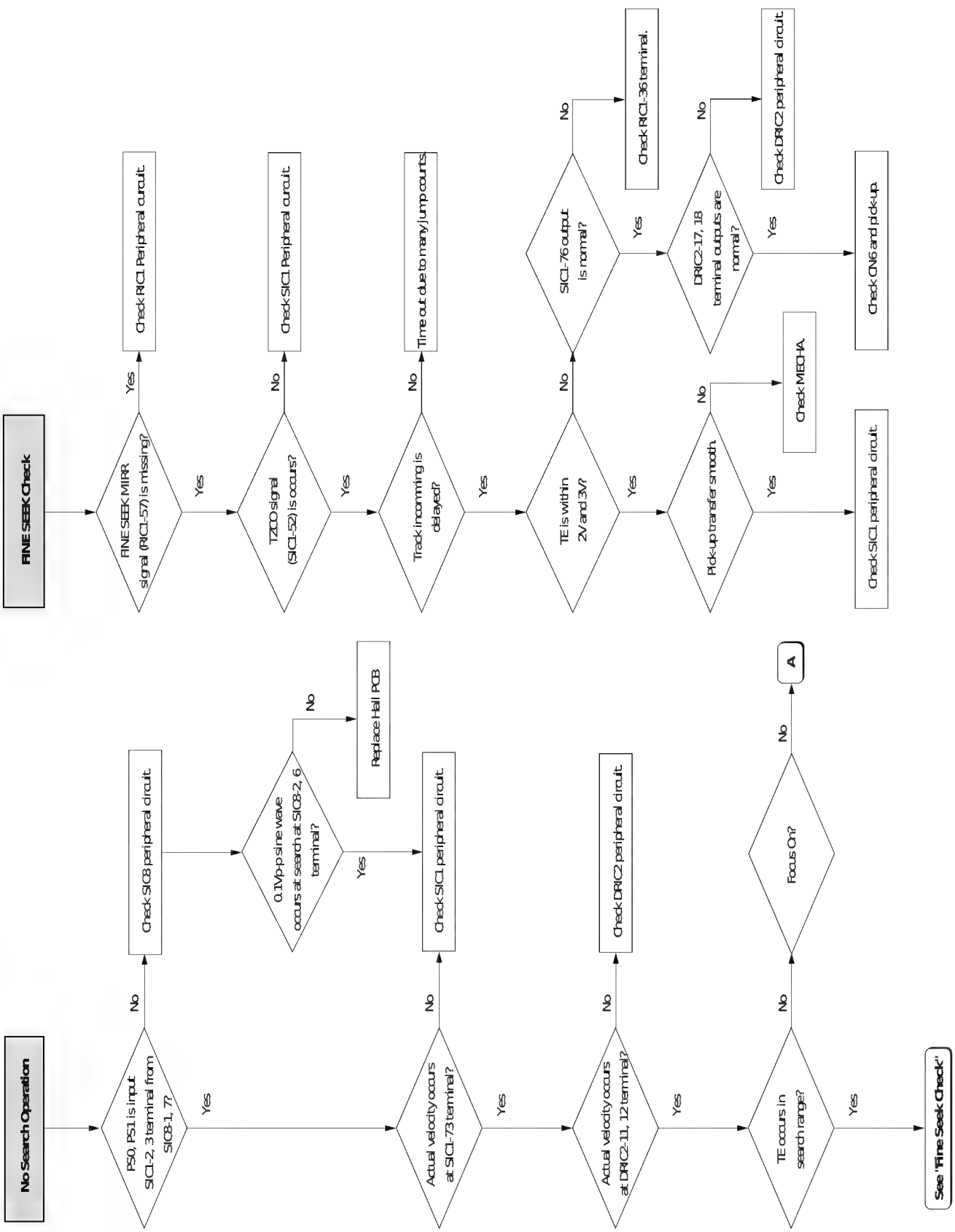
❶ Short protection

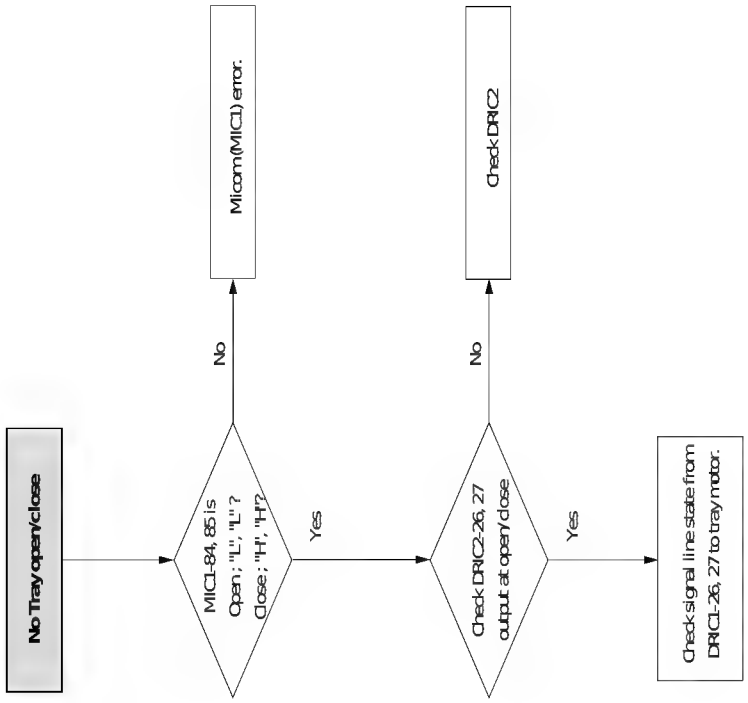
1st. Speaker short occur (in case of user short "Right Front" Speaker)
2nd. Emitter and Base of Q111 turn into Ground.
3rd. Q111 turns on and Collector of Q111 turn into Ground
4th. Q411 turns on (Base of Q411 turn "Lower than Ground" into Ground)
5th. Collector of Q411 (AMP_DET signal line) turn "High" into "Low"
6th. Micom detects that short occur
7th. Micom turn Relay Control signal line (Relay_F, Relay_C, Relay_S) "High" into "LOW"
8th. Collector of Q252, Q552, Q852 turn "Low" into "High"
9th. All relays open

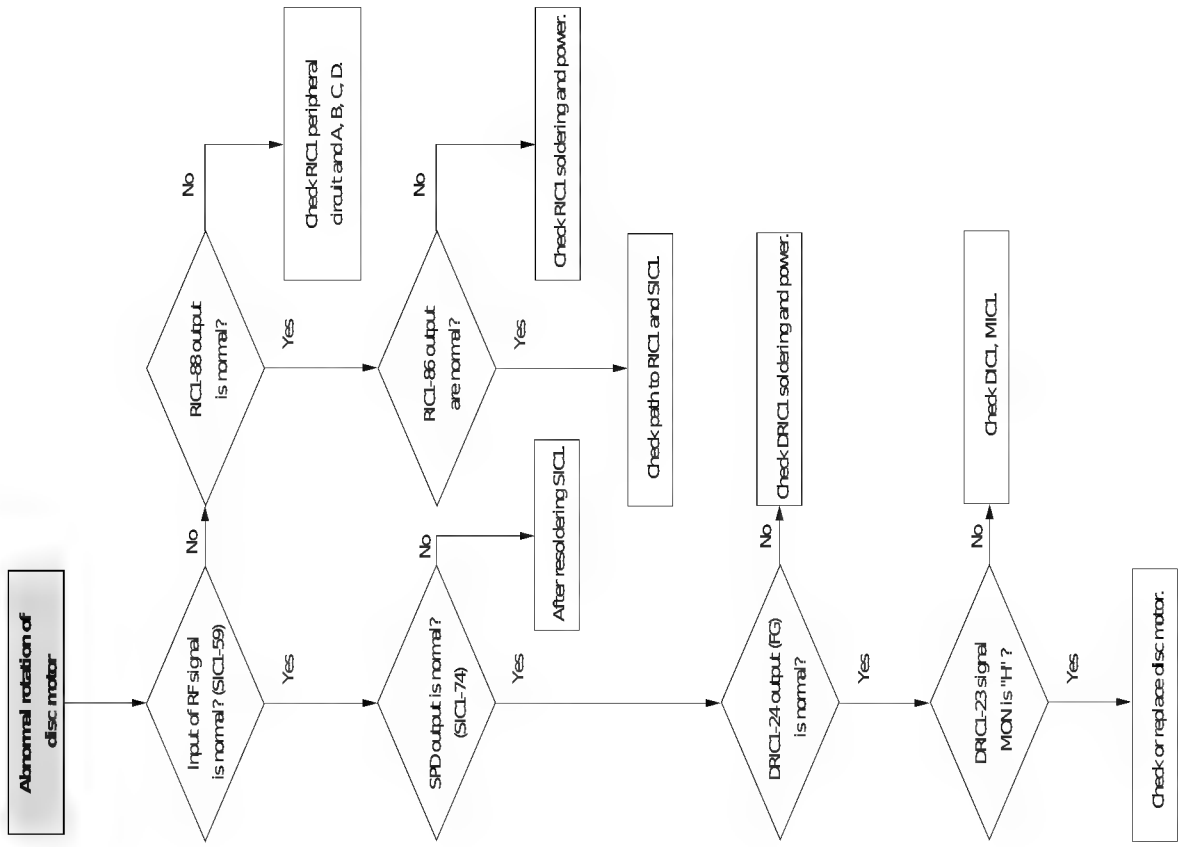
❷ DC protection

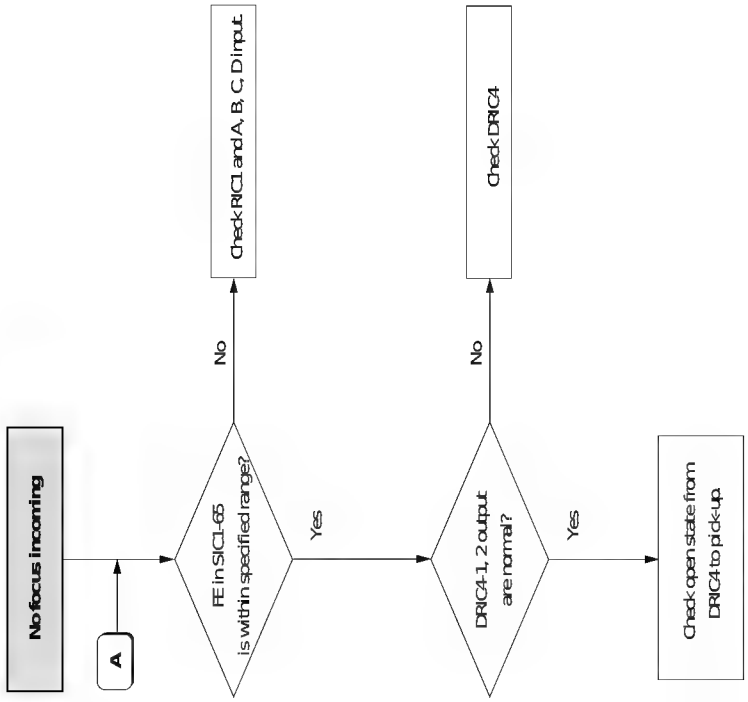
When DC is occurred from the output of the I200 or I800, the Q413 TR connected to each channels is operated to activate the AMP_DET signal to the Micom when the collector voltage turn 5V into "Low", which enables the Micom to operate the TR of Q251, Q551, and Q851, open the Relay.

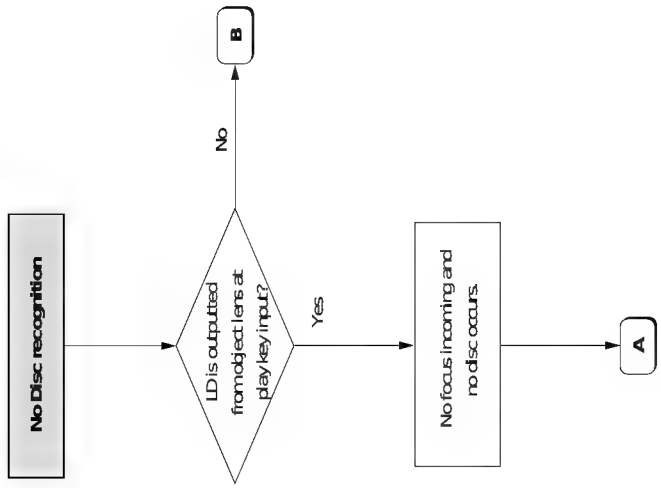
MEMO

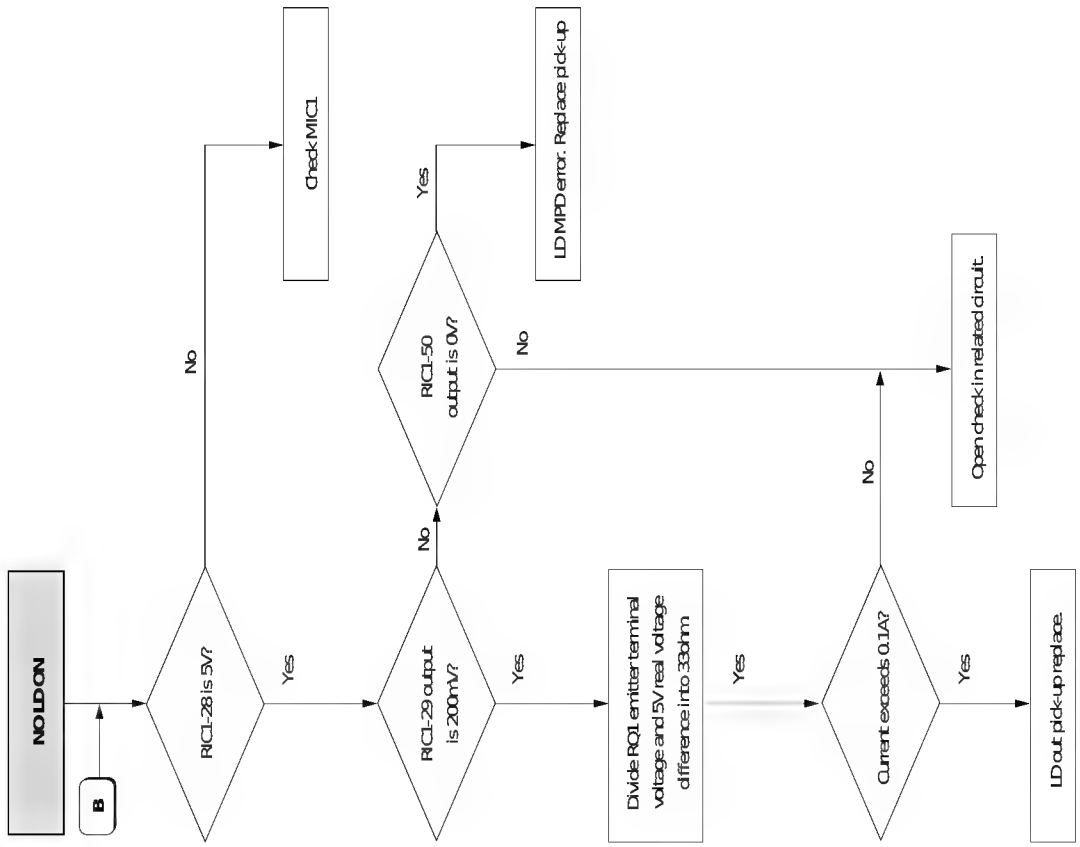

No Search Operation
PS0, PS1 is input SIC1-2, 3 terminal from SIC8-1, 7?
No
Yes
Check SIC8 peripheral circuit.
0.1Vp-p sine wave occurs at search at SIC8-2, 6 terminal?
No
Replace Hall PCB
Yes
Check SIC1 peripheral circuit.
Actual velocity occurs at SIC1-73 terminal?
No
Yes
Check DRIC2 peripheral circuit.
Actual velocity occurs at DRIC2-11, 12 terminal?
No
Yes
Focus On?
No
A
TE occurs in search range?
No
Yes
See "Fine Seek Check"
FINE SEEK Check
FINE SEEK MIRR signal (RIC1-57) is missing?
Yes
Check RIC1 Peripheral circuit.
Yes
TZCO signal (SIC1-52) is occurs?
No
Check SIC1 Peripheral circuit.
Yes
Track incomming is delayed?
No
Time out due to many jump counts.
Yes
TE is within 2V and 3V?
No
SIC1-76 output is normal?
No
Check RIC1-36 terminal.
Yes
Pick-up transfer smooth
No
Check MECHA.
Yes
Check SIC1 peripheral circuit.
DRIC2-17, 18 terminal outputs are normal?
No
Check DRIC2 peripheral circuit.
Yes
Check CN6 and pick-up.

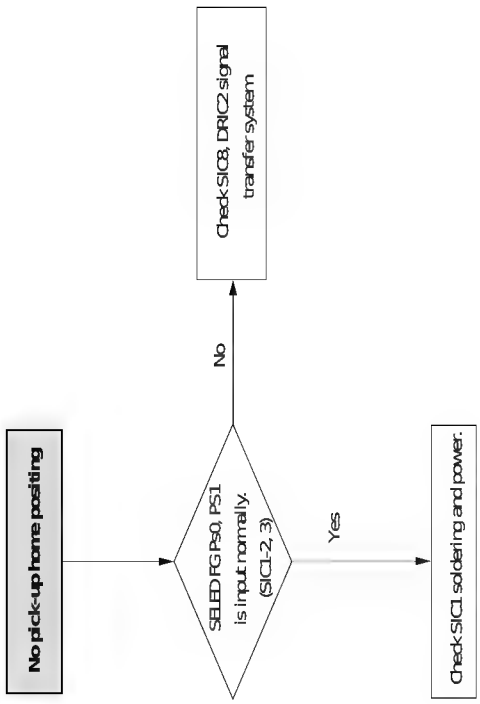

No Tray open/close
MIC1-84, 85 Is Open : "L", "L" ? Close : "H", "H"?
No
Micom(MIC1) error.
Yes
Check DRIC2-26, 27 output at open/close
No
Check DRIC2
Yes
Check signal line state from DRIC1-26, 27 to tray motor.

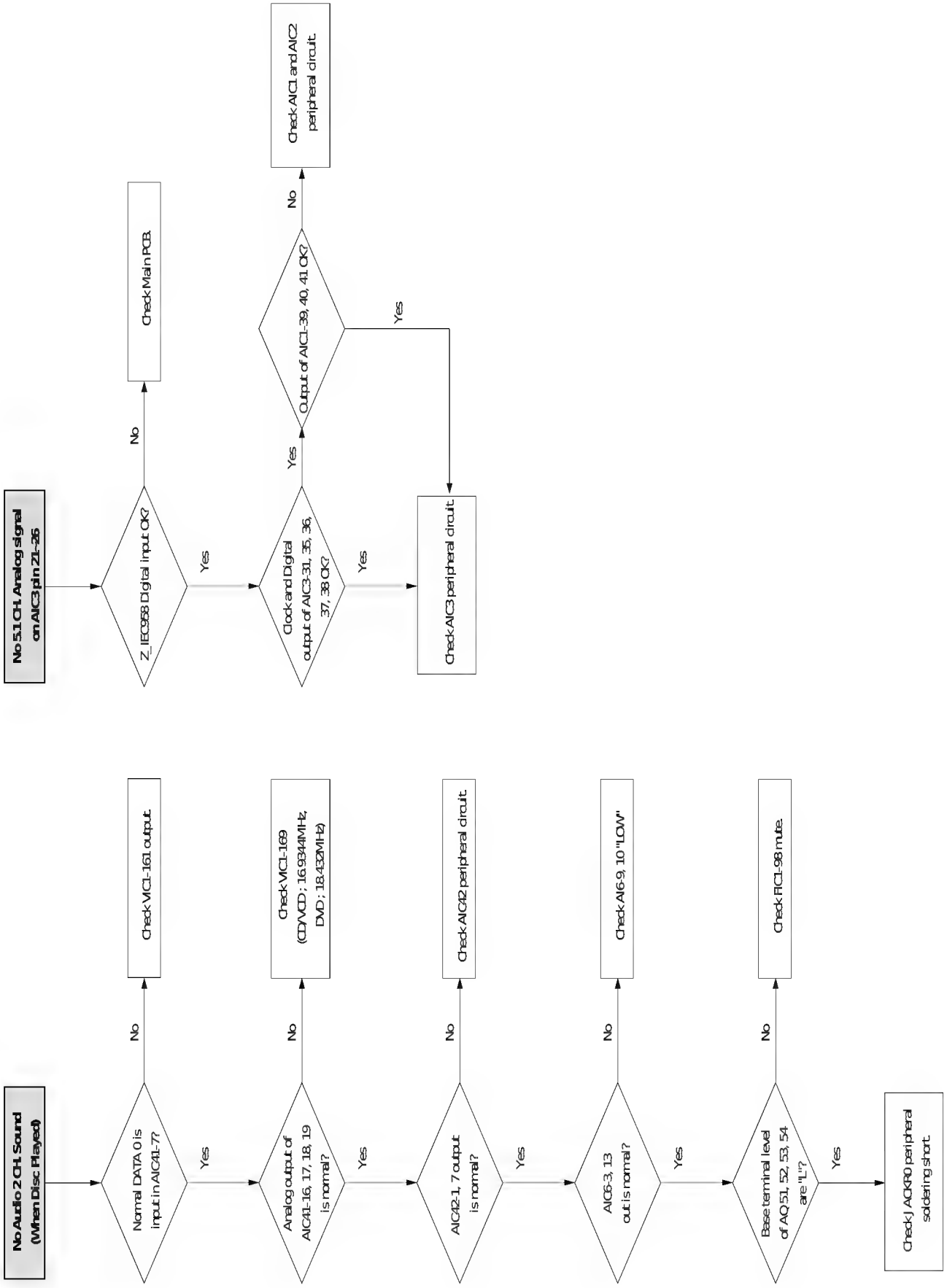

Abnormal rotation of disc motor
Input of RF signal is normal? (SIC1-59)
No
RIC1-88 output is normal?
No
Check RIC1 peripheral circuit and A, B, C, D.
Yes
SPD output is normal? (SIC1-74)
No
After resoldering SIC1
Yes
RIC1-86 output are normal?
No
Check RIC1 soldering and power.
Yes
Check path to RIC1 and SIC1
DRIC1-24 output (FG) is normal?
No
Check DRIC1 soldering and power.
Yes
DRIC1-23 signal MON Is "H" ?
No
Check DIC1, MIC1
Yes
Check or replace disc motor.

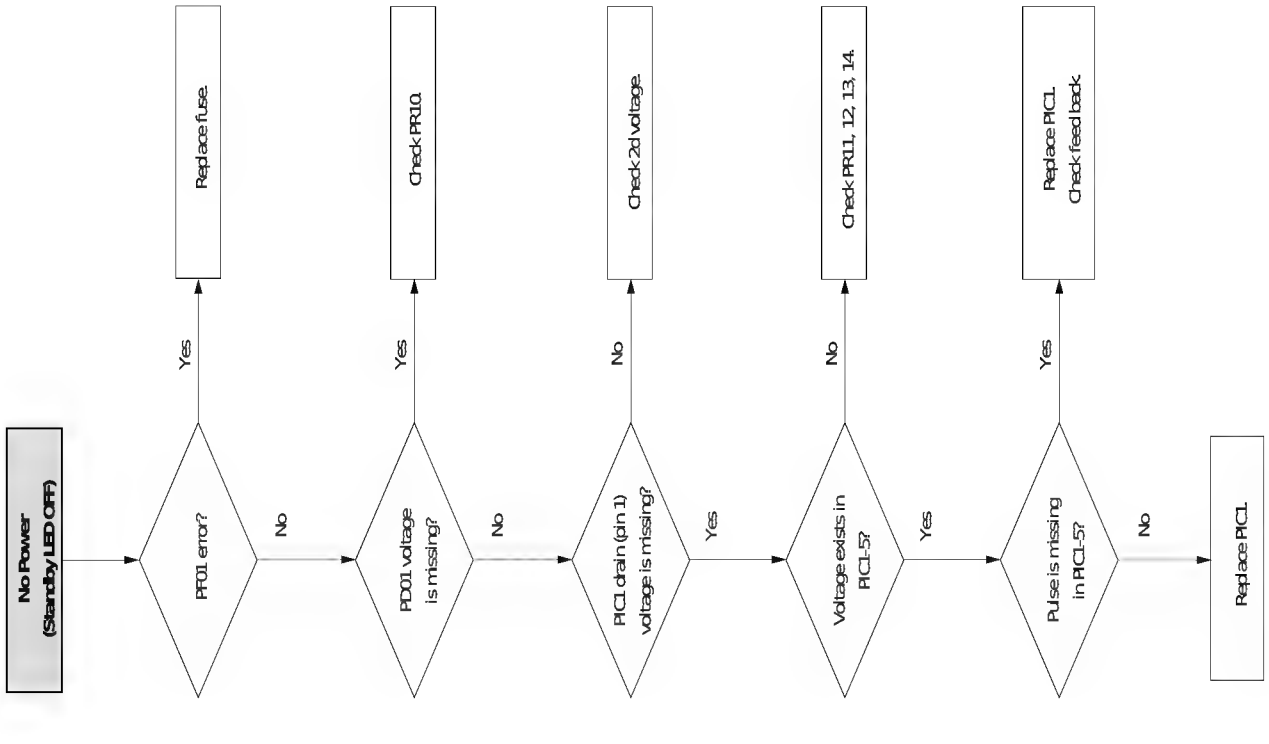

No focus incoming
A
FE in SIC1-65 is within specified range?
No
Check RIC1 and A, B, C, D input.
Yes
DRIC4-1, 2 output are normal?
No
Check DRIC4
Yes
Check open state from DRIC4 to pick-up.

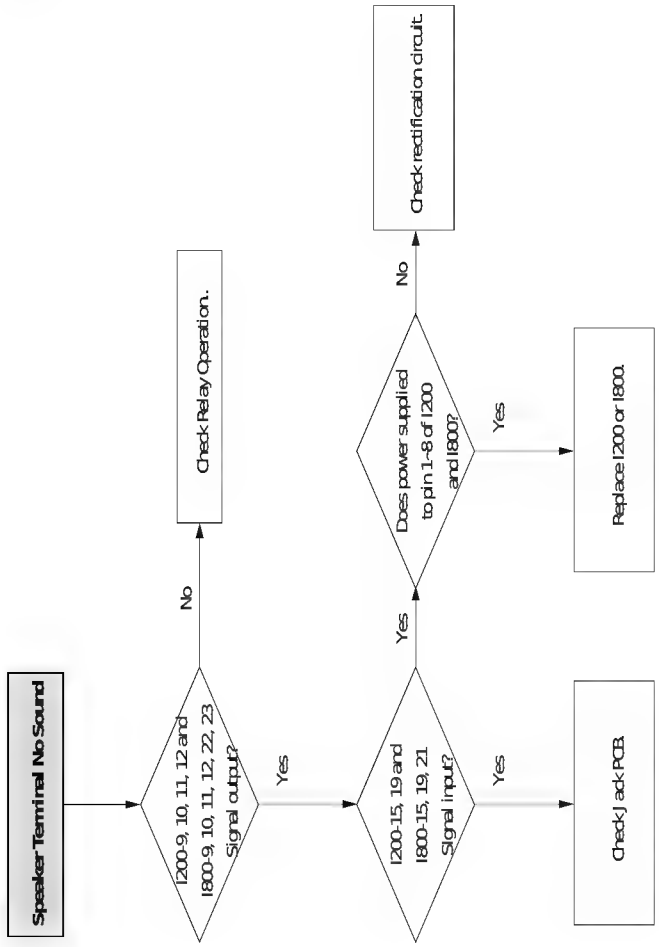

No Disc recognition
LD is outputted from objective lens at play key input?
No
B
Yes
No focus incoming and no disc occurs.
A


NO LD ON
B
RIC1-28 is 5V?
No
Check MIC1
Yes
RIC1-29 output is 200mV?
No
RIC1-50 output is 0V?
Yes
LD MPD error. Replace pick-up
No
Yes
Divide RQ1 emitter terminal voltage and 5V real voltage difference into 33ohm
Yes
Current exceeds 0.1A?
No
Open check in related circuit.
Yes
LD out pick-up replace.


No pick-up home positing
SELED FG PS0, PS1 is input normally. (SIC1-2, 3)
No
Check SIC03, DRIC2 signal transfer system
Yes
Check SIC1 soldering and power.

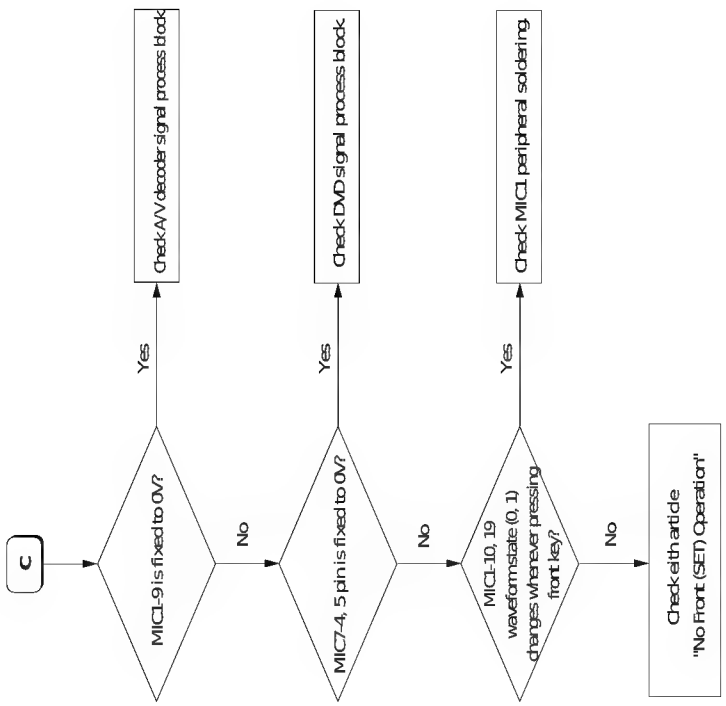

No Audio 2 CH Sound (When Disc Played)
Normal DATA 0 is input in AIC41-7?
No
Check MC1-161 output.
Yes
Analog output of AIC41-16, 17, 18, 19 is normal?
No
Check MC1-169 (CD/MCD : 16.9344MHz, DMD : 18.432MHz)
Yes
AIC42-1, 7 output is normal?
No
Check AIC42 peripheral circuit.
Yes
AIC6-3, 13 out is normal?
No
Check AI6-9, 10 "LOW"
Yes
Base terminal level of AQ 51, 52, 53, 54 are "L"?
No
Check RC1-98 mute.
Yes
Check J AGKR0 peripheral soldering short
No 5.1 CH Analog signal on AIC3 pin 21-26
Z_IEC958 Digital input OK?
No
Check Main PCB.
Yes
Clock and Digital output of AIC3-31, 35, 36, 37, 38 OK?
Yes
Check AIC3 peripheral circuit.
Yes
Output of AIC1-39, 40, 41 OK?
No
Check AIC1 and AIC2 peripheral circuit.

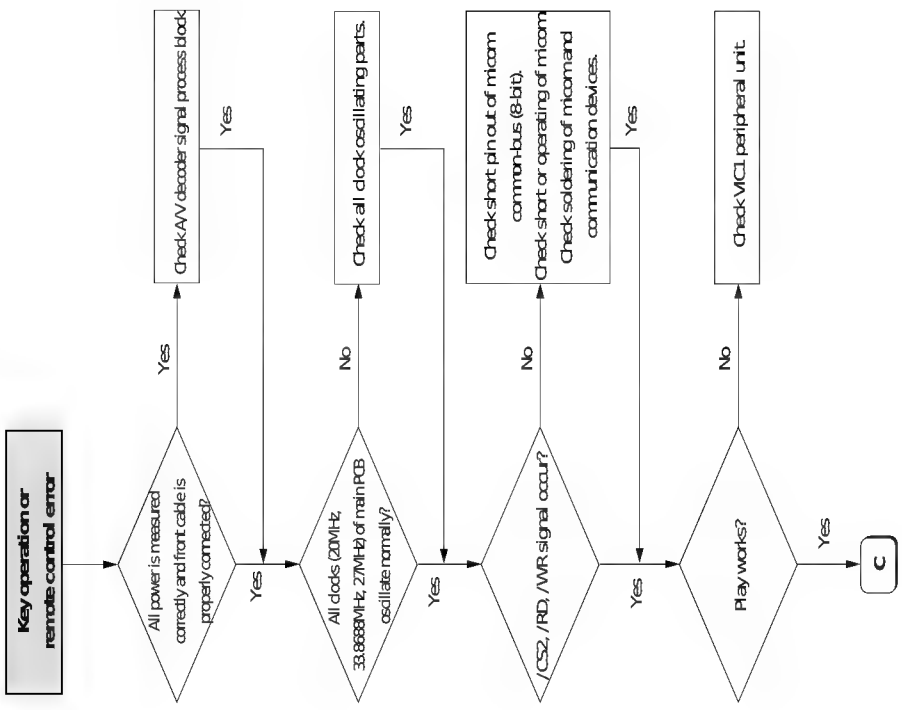

No Power
(Standby LED OFF)
PF01 error?
Yes
Replace fuse.
No
PD01 voltage
is missing?
Yes
Check PR10.
No
PIC1 drain (pin 1)
voltage is missing?
No
Check 2d voltage.
Yes
Voltage exists in
PIC1-5?
No
Check PR11, 12, 13, 14.
Yes
Pulse is missing
in PIC1-5?
Yes
Replace PIC1.
Check feed back.
No
Replace PIC1.


Speaker Terminal No Sound
I200-9, 10, 11, 12 and
I800-9, 10, 11, 12, 22, 23
Signal output?
No
Check Relay Operation.
Yes
I200-15, 19 and
I800-15, 19, 21
Signal input?
Yes
Check Jack PCB.
No
Does power supplied
to pin 1-8 of I200
and I800?
Yes
Replace I200 or I800.
No
Check rectification circuit.

DVD player error
'NO DISK' appears after pick-up moves up and down twice at power on?
No
Check DIC1, MIC1 peripheral short.
Yes
27MHz clock is input in DIC1-14?
No
Check 27MHz oscillating part.
Yes
Signals are output from SIC1-42, 44?
No
Replace SIC1.
Yes
VIC1 peripheral soldering and short check.

No front (SET) operation
REF +/-, 5V-all, -28V power is supplied.
No
Check power status.
Yes
12MHz oscillation (FY1)?
No
Check X-TAL peripheral circuit.
Yes
Reset working in RIC1-12?
No
Check reset peripheral circuit of RIC2.
Yes
RIC1 soldering is OK?
No
Check RIC1 soldering.
Yes
Operational waveform is missing in RIC3 (FLT) pin?
Yes
Check RIC1 peripheral circuit.
No
Key of STOP, PLAY, OPEN work normally?
No
Check S/W interface. Check communication status with main micom (Check RIC1 pins 27, 72, 73, 74, 75)
Yes
If the problem persists ; Check after replacing Jack PCB with another one. Check other parts for abnormal front operation persists.


C
MIC1-9 is fixed to 0V?
Yes
Check A/V decoder signal process block
No
MIC7-4, 5 pin is fixed to 0V?
Yes
Check DVD signal process block
No
MIC1-10, 19 waveform state (0, 1) changes whenever pressing front key?
Yes
Check MIC1 peripheral soldering
No
Check either article "No Front (SET) Operation"


Key operation or remote control error
All power is measured correctly and front cable is properly connected?
Yes
Check A/V decoder signal process block
Yes
All clocks (20MHz, 33.8688MHz, 27MHz) of main PCB oscillate normally?
No
Check all clock oscillating parts.
Yes
/CS2, /RD, /WR signal occur?
No
Check short pin out of micom common-bus (8-bit).
Check short or operating of micom and communication devices.
Check soldering of micom and communication devices.
Yes
Play works?
No
Check MIC1 peripheral unit.
Yes
C

Video output error in RCA Jacks (When DVD)
Power level is normal at pin 6, 17, 20, 25, 28, 31, 36, 39 in TIC1?
No
Check the connection between pin 2 in PIC7 and Emmiter in PQ24.
Yes
27MHz clock input is normal at pin 4 in TIC1?
No
Check the connection between pin 10 in VIC6 and pin 4 in TIC1.
Yes
MRST is High state at pin 40 in TIC1?
No
Check the connection between pin 1 in RIC1 and pin 40 in TIC1.
Yes
Control signal is normal at pin 41, 42 in TIC1? (When power on or oper)
No
Check the connection between pin 86, 87 in MIC1 and pin 41, 42 in TIC1.
Yes
SYNC signal is normal at pin 7, 8 in TIC1?
No
Check the soldering of TIC1.
No
Change TIC1.
Yes
Video data are inputed normally at pin 9 ~16 in TIC1?
No
Check the connection with pin 180, 182, 184 ~189 in VIC1.
Yes
Analog signals output normally at pin 30, 27, 24, 29, 23, in TIC1?
No
Check the soldering of TIC1.
No
Change TIC1.
Yes
D
D
Analog signals are inputed normally at pin TIC5-11, 12, TIC4-11, 12, 1, 4?
No
Check the connection between TIC1 and TIC4, TIC5.
Yes
Analog signals are outputed normally at pin TIC5-13 TIC4-13, 3?
No
Check TIC4-9/TIC-9 ; "L" TIC4-10/TIC5-10 ; "L"
Yes
Analog signals are inputed normally at pin 2, 4, 7 in TIC2?
No
Check the connection between TIC1 and TIC2.
Yes
Power is normal at pin 16 in TIC2?
No
Check the connection between TIC2 and Emmiter of PQ24.
Yes
Pin 1 in TIC2 is in Low state?
No
Connect to ground.
Yes
Video signals of about 2V appear at pin 10, 13, 15 in TIC2?
No
Check the soldering of TIC2.
No
Change TIC2.
Yes
Video signals of about 1V appear at output jacks?
No
Check the connection between TIC2 and output jacks.
Yes
Check the RCA cable.

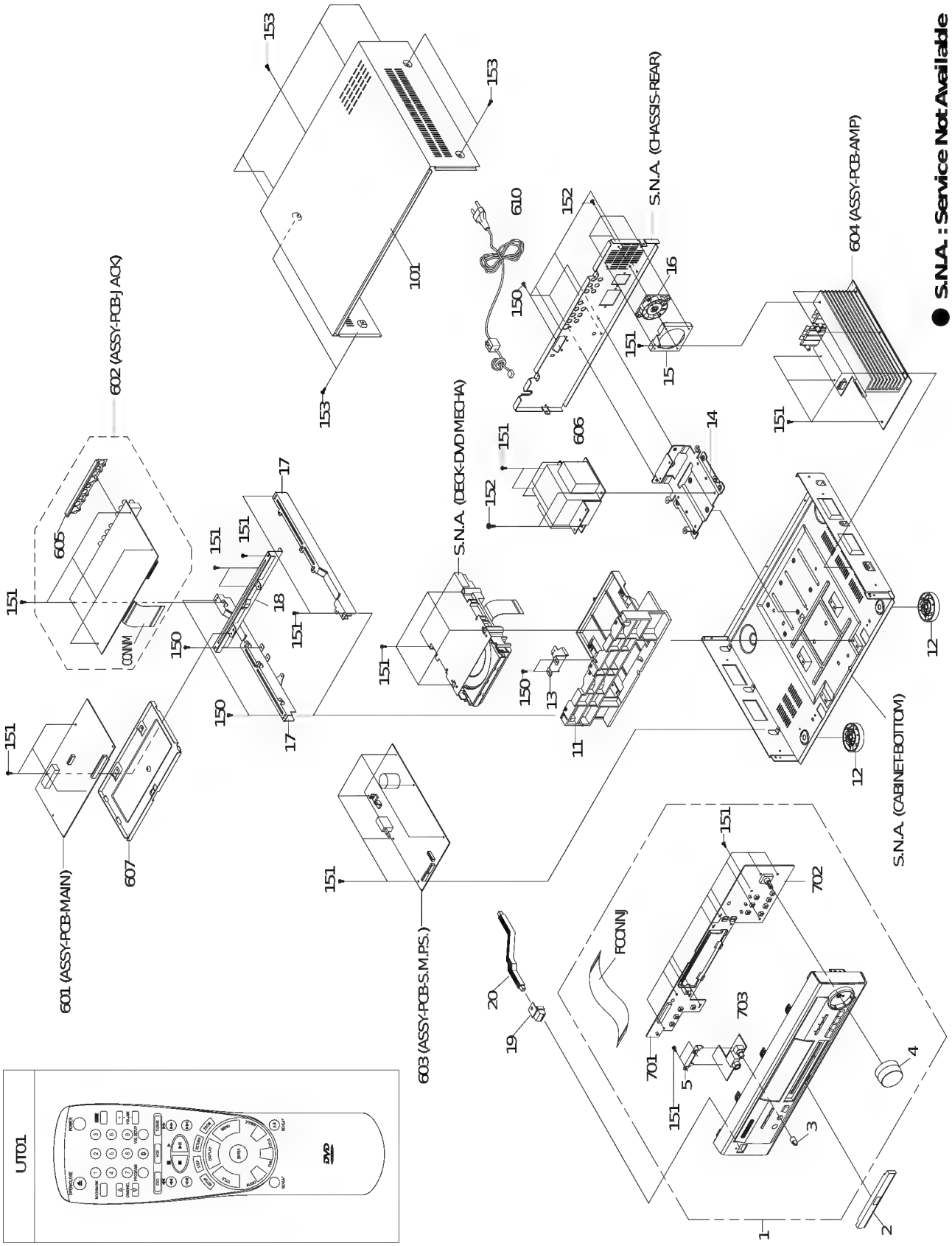
MEMO

8. Exploded View and Parts List

Page

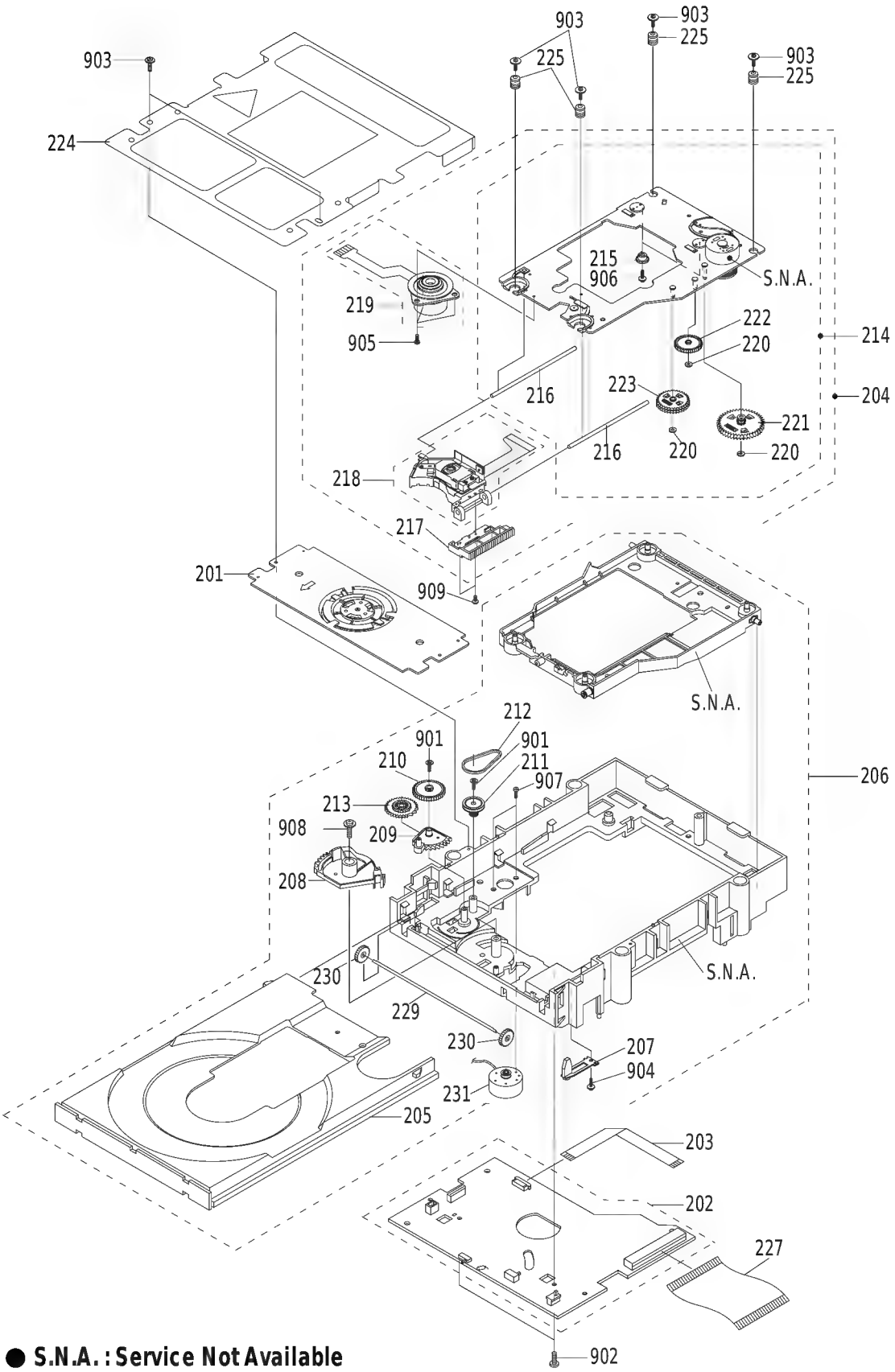
8-1 Cabinet Assembly - - -

8-1 Cabinet Assembly



Loc. No	Parts No.	Description ; Specification	Remark
1	AH97-00247A	ASSY-CABINET FRONT;DVD-A500,ASSY,DOM	
2	AH97-00329A	ASSY-DOOR TRAY;DVD-A500,ASSY,XAA	
3	AH64-11306M	KNOB-VOLUME;-,ABS 94HB,-,BLK,-,DVD-C700,	
4	AH64-00372A	KNOB-VOLUME AMP;-,ABS94,-,-,-,DVD-A500,D	
5	AH61-00088A	BRACKET-HEADPHONE;-,SECC,-,T1.0,-,-,RC52	
11	AH61-00246A	FRAME-HOLDER;-,ABS 94VO,-,-,-,-,-,-,XAA,	
12	AH95-50252A	ASSY-FOOT;DVD-860,ABS+EVA SPONGE,-	
13	AH61-00243A	BRACKET-SUB;-,SECC US,-,1,-,XAA,DVS3000,	
14	AH61-00244A	BRACKET-SUPPORT;-,SECC US,-,1.6,-,XAA,DV	
15	AH61-00245A	BRACKET-FAN;-,SECC US,-,1,-,XAA,DVS3000,	
16	3103-001068	FAN-DC;12V,150MA,3800RPM,0.29M^3/MI,2	
17	AH97-00317A	ASSY-BRKT-MAIN;DVS3000,ASSY,-	
18	AH61-00241A	BRACKET-CENTER;-,SECC US,-,1.2,-,XAA,DV	
19	AH64-00370A	KNOB-POWER;-,ABS 94 ,-,-,-,DVD-A500,DOM	
20	AH61-00249A	FRAME-STICK;-,ABS 94HB,-,-,-,-,-,-,XEF,D	
101	AH64-00356B	CABINET-TOP;-,PCM T 0.625,-,-,-,-,XEF,DV	
150	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK,SWCH1018	
151	6003-000276	SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC	
152	6002-000414	SCREW-TAPPING;TH,+,3S,M4,L8,ZPC(BLK),SWC	
153	AH60-00025A	SCREW-TAP BH;-,-,-,-,-,-,-,-,-,SILVER	
601	AH92-00635A	ASSY PCB-MAIN;DVD-A500/XEF,MAIN	
602	AH92-00534A	ASSY PCB-JACK;DVD-A500,JACK	
603	AH92-00543A	ASSY PCB-SMPS;DVD-A500,SMPS	
604	AH92-00254A	ASSY-PCB-AMP;DVS3000,AMP	
605	AH63-00105A	GROUND-REAR;-,PBS,T0.2,-,DVS3000	
606	AH26-00070A	TRANS-POWER;-,-,7 Pin,-,50Hz,Silicon ste	
607	AH61-00352A	CHASSIS-EMI;SECC US,0.8,-,-	
610	AH39-00041A	POWER CORD;KJ-10W,CP2,-,1.83M,CONNECTOR,	
701	AH92-00204A	ASSY-PCB-FRONT;AMP DVD,FRONT	
702	AH92-00574A	ASSY PCB-KEY;DVD-A500,KEY	
703	AH92-00474A	ASSY PCB-HEADPHONE;DVD-A500,Headphone	
CONNM	3809-001165	CABLE-FLAT;30V,-20to+80C,112mm,35P,1.25m	
FCONNJ	3809-001162	CABLE-FLAT;30V,-20to+80C,310mm,40P,1.25m	
UT01	AH59-10141J	REMOCON-ASS'Y;-,-,-,-,DVD-A500,SAMSUNG	

8-2 Deck Assembly



● **S.N.A. : Service Not Available**

Loc. No	Parts No.	Description ; Specification	Remark
201	AH97-00326A	ASSY-DECK-CLAMPER;DP-3A,SECC+POM,AL T/T	
202	AH92-00035A	ASSY-PCB-DECK;DP-3,-	
203	3809-001125	CABLE-FLAT;30V,80C,140MM,8P,1MM,UL2896	
204	AH91-60147A	ASSY-BRKT DECK;DP-3,DVD-909,-	
205	AH66-90054A	TRAY-DVD;DP,ABS,-,BLK,-,DP-1	
206	AH91-60154A	ASSY-DECK HOUSING;DP-3,DVD-909,-	
207	AH66-30087A	LEVER-OPEN SW;DP,KEPITAL,T0.7,L26,F20-03	
208	AH66-20194A	GEAR-CAM CENTER;DP,KEPITAL F20-03,M1.2,Z	
209	AH66-20183A	GEAR-CAM SUB;DP,KEPITAL FT2020,M1,2,Z7,-	
210	AH66-20185A	GEAR-TRAY A;DP,KEPITAL F20-03,M0.4/M0.5,	
211	AH66-10024A	PULLEY-GEAR;DP,KEPITAL F20-03,BLK,DP-1	
212	AH66-60033A	BELT-PULLEY;DP,CR,T1.5,0.08,L82.7,BLK,DP	
213	AH66-20184A	GEAR-TRAY;DP,KEPITAL F20-03,M0.5/M0.6,Z4	
214	AH97-00178A	ASSY-BRKT FEED;DP-3,-,SOH-DP1	
215	BG61-20031A	HOLDER-CAM;-,POM,-,-,-,DDR-4	
216	AH61-50327A	SHAFT-P/U;DP,SUS420J2,OD3,L84.7,S/FINISH	
217	AH66-20228A	RACK-SLIDE;DP,KEPITAL F20-03,-,-,-,-,DP-	
218	AH30-20001B	PICK-UP;SPU-DP1 DVD-909	
219	AH97-00327B	ASSY-MOTOR SPINDLE;DP-3A,DP-3A,RSM-2613B	
220	AH60-30020A	WASHER-PLAIN;DP,-,ID3.1,OD6,T0.3,RED COL	
221	AH91-60120A	ASSY-GEAR-FEED-AU/AL;DP-1,DVD-860,-	
222	AH66-20182A	GEAR-FEED B;DP,KEPITAL F20-03,M0.4,Z44,W	
223	AH91-60121A	ASSY-GEAR-FEED-CU/CL;DP-1,DVD-860,-	
224	AH63-30245B	COVER-SHEET;-,-,-,T0.5,CLR,-,BLK CARBON,	
225	AH73-10017A	RUBBER-INSULATOR;RUBBER(LB-40),OD11,DP-1	
227	3809-001163	CABLE-FLAT;30V,-20to+80C,210mm,40P,1.25m	
229	AH61-50323A	SHAFT-SYNCRO;-,sus304,2.1,119,-,-,dvd-90	
230	AH66-22005A	GEAR-SYNCRO-A;KEPITAL F20-03,M0.8,Z9,-,P	
231	AH97-00179A	ASSY-HOUSING MOTOR;DP-3,-,SOH-DP1	
901	AH60-10151A	SCREW-TAP TITE;DP,SPEC6.8 ,PH,+,CP,M2,L	
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
903	AH60-10143U	SCREW-TAP TITE;-,SWRCH18A,-,PH,-,DP-3,+,	
904	AH60-10145A	SCREW-TAP TITE;DP,PH,+,SPEC OD5.5 FP,TAP	
905	AH60-10147A	SCREW-MACHINE;DP,CH,+,FP,M2,L4,ZPC,SWRCH	
906	AC60-10059A	SCREW-TAPPING;BH,+,-,1.7,X5,ZPC2	
907	AH60-00010A	SCREW-MACHINE-MOTOR;-,+,SWCH18AK,M1.7,L2	
908	AC60-10042A	SCREW-TAPPING;PWH,+,-,M3,L8,-	
909	BG60-10020A	SCREW-SP MOTOR;-,BHW TOOTH,-,-,M1.7,L3,-	

MEMO

9. Electrical Parts List

Loc.No	Part No	Description ; Specification	Remark
601	**AH92-00635A**	**ASSY PCB-MAIN;DVD-A500/XEF,MAIN**	
AR1	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR2	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR3	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR4	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR5	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR6	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR7	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR8	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR9	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
CN6	3708-001085	CONNECTOR-FPC/FC/PIC;40P,1.25mm,STRAIGHT	
CN7	3711-003358	CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH	
CN8	3708-001364	CONNECTOR-FPC/FC/PIC;35P,1.25MM,STRAIGHT	
DC1	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
DC10	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC12	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC13	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC14	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC15	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
DC16	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC2	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
DC23	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC24	2203-000189	C-CERAMIC,CHIP;100nF,+80-2a0%,25V,Y5V,TP,	
DC3	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
DC4	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC6	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC7	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC8	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DC9	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DE1	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DIC1	AH13-10030P	IC-ASIC;-,KS1453,TQFP,128P,DATA PRO.I	
DIC2	1105-001233	IC-DRAM;416C256,256KX16BIT,SOJ,40P,400MI	
DIC7	0801-002097	IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110	
DL1	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
DRC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC10	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC2	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC3	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC4	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC6	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC7	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC8	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRC9	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DRE1	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
DRE2	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
DRE3	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
DRE4	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRE5	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRE6	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRE7	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRE8	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRE9	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
DRIC1	1003-001130	IC-MOTOR DRIVER;KA3011DTF,SOP,28P,-,QUAD	
DRIC2	1003-001284	IC-MOTOR DRIVER;FAN8000D,SSOPH,28P,-,-,-	
DRL1	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
DRL2	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
DRR10	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
DRR11	2007-000087	R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608	
DRR12	2007-000087	R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608	
DRR13	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
DRR14	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
DRR3	2007-000034	R-CHIP;1OHM,5%,1/8W,DA,TP,3216	
DRR4	2007-000034	R-CHIP;1OHM,5%,1/8W,DA,TP,3216	
DRR7	2007-000616	R-CHIP;24Kohm,5%,1/16W,DA,TP,1608	
DRR9	2007-000096	R-CHIP;30Kohm,5%,1/16W,DA,TP,1608	
MC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC10	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC12	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC13	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC14	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC16	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
MC18	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
MC19	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
MC2	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC20	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC3	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
MC4	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
MC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC6	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC7	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC8	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MC9	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
MIC1	0903-001144	IC-MICROCONTROLLER;93CM41,8BIT,QFP,100P,	
MIC2	0801-002207	IC-CMOS LOGIC;74AC573,LATCH,SOP,20P,300M	
MIC5	1103-001133	IC-EEPROM;24C020,256x8BIT,SOP,8P,150MIL,	
MIC6	0801-002143	IC-CMOS LOGIC;TC7S32F(T5L),OR GATE,SOT-2	
MIC7	0801-000379	IC-CMOS LOGIC;74HC00,NAND GATE,SOP,14P,1	
MIC8	1102-001090	IC-EPROM;27C081,1M X8BIT,DIP,32P,600MIL,1	
MIC8A	3704-000472	SOCKET-IC;32P,DIP,SN,2.54mm	
MJP1	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
MJP2	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
ML1	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
MQ1	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
MR1	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR10	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR12	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR13	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR14	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR15	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR16	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR17	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR18	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR19	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR2	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
MR22	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR23	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR24	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
MR25	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
MR3	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR33	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
MR34	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR35	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR36	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
MR37	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
MR38	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
MR39	2007-000103	R-CHIP;120Kohm,5%,1/16W,DA,TP,1608	
MR4	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR40	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
MR41	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	

Loc.No	Part No	Description ; Specification	Remark
MR42	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
MR43	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
MR5	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR6	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR7	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR8	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MR9	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
MXTAL1	2801-000199	CRYSTAL-UNIT;20MHz,50ppm,28-AAA,16pF,50o	
PC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
PC2	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
PC3	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
PC4	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
PCB	AH41-00018A	PCB;DVD-909/DOM,2L,PHENOL,225X122X1.6T	
PE1	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
PE2	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
PE3	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
PE4	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
RC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC10	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
RC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC12	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
RC13	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
RC14	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
RC15	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC16	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC17	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC2	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC20	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC21	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	
RC22	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC23	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC24	2203-001697	C-CERAMIC,CHIP;0.082nF,5%,50V,NP0,TP,160	
RC25	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC26	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC27	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC28	2203-001052	C-CERAMIC,CHIP;0.56nF,10%,50V,X7R,TP,160	
RC29	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC3	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC31	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC32	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC33	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC34	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC35	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
RC36	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
RC37	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC38	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC39	2203-000531	C-CERAMIC,CHIP;2.7nF,10%,50V,X7R,TP,1608	
RC4	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
RC40	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
RC41	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC42	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC43	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC44	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC45	2203-001652	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	
RC46	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
RC47	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC50	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC51	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC52	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC53	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC54	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
RC55	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	
RC6	2203-001052	C-CERAMIC,CHIP;0.56nF,10%,50V,X7R,TP,160	
RC7	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
RC8	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	

Loc.No	Part No	Description ; Specification	Remark
RC9	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
RD1	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
RD2	0403-001079	DIODE-ZENER;UDZ3.9B,7%,200MW,SOD-323,TP	
RD6	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
RD7	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
RE10	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
RE11	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
RE12	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
RE13	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
RE17	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
RE2	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
RE8	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
RE9	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
RIC1	AH13-10030M	IC-ASIC;-,KS1461,VQFP,100P,RF IC	
RIC2	0801-002279	IC-CMOS LOGIC;74VHC4053,MUX,SOP,16P,150M	
RIC3	1202-000121	IC-VOLTAGE COMP.;2903,SOP,8P,150MIL,DUAL	
RIC4	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
RIC6	0801-002097	IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110	
RL2	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
RL3	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
RL4	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
RQ1	0501-000279	TR-SMALL SIGNAL;KSA1182-Y,PNP,150mW,SOT-	
RQ2	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
RR1	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR10	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
RR11	2007-000512	R-CHIP;2.4Kohm,5%,1/16W,DA,TP,1608	
RR12	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
RR13	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
RR14	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR15	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
RR16	2007-000704	R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608	
RR17	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RR18	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR19	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR2	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RR20	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR21	2007-000081	R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608	
RR22	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR23	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR24	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RR25	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR26	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR27	2007-000130	R-CHIP;39Kohm,5%,1/16W,DA,TP,1608	
RR28	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RR29	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RR3	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR30	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR31	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
RR32	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR32A	2007-000108	R-CHIP;510Kohm,5%,1/16W,DA,TP,1608	
RR33	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
RR34	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR35	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RR36	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR37	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR38	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR39	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR4	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR40	2007-000655	R-CHIP;27Kohm,5%,1/16W,DA,TP,1608	
RR41	2007-000708	R-CHIP;3.9Kohm,1%,1/16W,DA,TP,1608	
RR42	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR43	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR44	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR45	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR46	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR47	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	

Loc.No	Part No	Description ; Specification	Remark
RR48	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RR49	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR5	2007-000127	R-CHIP;9.1Kohm,5%,1/16W,DA,TP,1608	
RR50	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR51	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
RR56	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR57	2007-000088	R-CHIP;7.5Kohm,5%,1/16W,DA,TP,1608	
RR58	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
RR59	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
RR6	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RR62	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
RR63	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RR65	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
RR67	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RR68	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	
RR69	2007-000431	R-CHIP;16Kohm,5%,1/16W,DA,TP,1608	
RR7	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
RR70	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
RR8	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
RR9	2007-000417	R-CHIP;15OHM ,5%,1/8W,DA,TP,3216	
RR99	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
SC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC10	2203-001222	C-CERAMIC,CHIP;820pF,10%,50V,X7R,TP,1608	
SC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC14	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
SC15	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
SC16	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC17	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
SC18	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC19	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
SC2	2203-001573	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
SC20	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC21	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
SC26	2203-002398	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,1608	
SC29	2203-000372	C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608,	
SC3	2203-001573	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
SC30	2203-000372	C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608,	
SC31	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
SC32	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
SC33	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
SC34	2203-000405	C-CERAMIC,CHIP;0.18nF,5%,50V,NP0,TP,1608	
SC36	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC37	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC38	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC39	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC4	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC6	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC7	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
SC9	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
SD2	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
SD3	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
SE1	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
SE2	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
SE3	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
SE4	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
SE5	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
SIC1	AH13-10030N	IC-ASIC;-,KS1452,QFP,80P,DSSP IC	
SIC2	0801-002097	IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110	
SIC3	0801-002097	IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110	
SIC8	1202-000121	IC-VOLTAGE COMP.;2903,SOP,8P,150MIL,DUAL	
SL2	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
SL3	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
SL4	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
SQ1	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
SQ2	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	

Loc.No	Part No	Description ; Specification	Remark
SR1	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
SR10	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
SR11	2007-000107	R-CHIP;470Kohm,5%,1/16W,DA,TP,1608	
SR12	2007-001235	R-CHIP;910Kohm,5%,1/16W,DA,TP,1608	
SR13	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
SR14	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	
SR15	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
SR16	2007-000131	R-CHIP;91Kohm,5%,1/16W,DA,TP,1608	
SR17	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
SR18	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
SR19	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
SR2	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
SR20	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
SR21	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
SR22	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
SR23	2007-000130	R-CHIP;39Kohm,5%,1/16W,DA,TP,1608	
SR26	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	
SR3	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
SR31	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
SR32	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
SR33	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
SR34	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
SR35	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
SR36	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
SR37	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
SR38	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
SR39	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	
SR4	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
SR40	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
SR42	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
SR44	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
SR45	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
SR46	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
SR47	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
SR48	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
SR49	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
SR5	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
SR50	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
SR51	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
SR52	2007-000704	R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608	
SR53	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
SR54	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
SR6	2007-000098	R-CHIP;56Kohm,5%,1/16W,DA,TP,1608	
SR60	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	
SR7	2007-000799	R-CHIP;360ohm,5%,1/16W,DA,TP,1608	
SR8	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
SR9	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
SY1	2801-000261	CRYSTAL-UNIT;33.8688MHZ,50PPM,28-AAA,12P	
VC1	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC10	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC12	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC13	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC14	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC15	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC16	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC17	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC18	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC19	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC20	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC21	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC22	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC23	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC24	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC25	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC26	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	

Loc.No	Part No	Description ; Specification	Remark
VC27	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC28	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC29	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC3	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC30	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC31	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC32	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC33	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC34	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC35	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC36	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC37	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC38	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC39	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC4	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC40	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC41	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC42	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC43	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC44	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC45	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC47	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC48	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
VC5	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC50	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC51	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC52	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC53	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC54	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC55	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
VC6	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC61	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC62	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC65	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC66	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC67	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC68	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
VC69	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC7	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC70	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC71	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC72	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC73	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC74	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC75	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC76	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC77	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC78	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
VC8	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC81	2203-000851	C-CERAMIC,CHIP;0.039nF,5%,50V,NP0,TP,160	
VC82	2203-000851	C-CERAMIC,CHIP;0.039nF,5%,50V,NP0,TP,160	
VC83	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
VC84	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
VC85	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
VC9	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC90	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VC91	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
VE1	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
VE2	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
VE3	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
VE4	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
VIC1	1204-001647	IC-VIDEO DECODER;ZiVA-3-PE0,PQFP,208P,28	
VIC10	1105-001259	IC-DRAM;416S1020,16BIT,TSOP,50P,400M IL	
VIC2	0402-000309	DIODE-RECTIFIER;1SR154-400,400V,1A,PSM	
VIC3	0801-002097	IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110	
VIC4	1105-001259	IC-DRAM;416S1020,16BIT,TSOP,50P,400M IL	
VIC6	AH14-10004R	IC;M 74HCU04,SOP,TAPE 14P	
VL1	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL10	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
VL11	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL12	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL13	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL14	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL15	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL16	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL17	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL18	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL19	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL2	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL20	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL21	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL22	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL23	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL24	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL25	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL26	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL27	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL28	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL29	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL3	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL4	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL5	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VL6	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
VR1	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
VR10	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
VR100	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR101	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR102	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR103	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR104	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR2	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
VR21	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR22	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR23	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR24	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR25	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR26	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR27	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR28	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
VR3	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR30	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR31	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR32	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR33	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR34	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR35	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR36	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR37	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR38	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR39	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR4	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
VR40	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR41	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
VR42	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR43	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR44	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR45	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR46	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR47	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR48	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR49	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR50	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	

Loc.No	Part No	Description ; Specification	Remark
VR51	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR52	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR54	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR55	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR56	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
VR57	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
VR58	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR59	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR60	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR61	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR62	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR63	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR64	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR65	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
VR66	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR67	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR68	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR69	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR7	2007-000116	R-CHIP;120ohm,5%,1/16W,DA,TP,1608	
VR70	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR71	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR72	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR73	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR74	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR75	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR76	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR77	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR78	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR79	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR80	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR81	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
VR82	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
VR83	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR84	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR85	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR86	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR87	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR88	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR89	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR9	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
VR90	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR91	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR92	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR93	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR94	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR95	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR96	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR97	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR98	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	
VR99	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
VY1	2801-003554	CRYSTAL-UNIT;27MHz,10ppm,28-AAM,12pF,40o	

Loc.No	Part No	Description ; Specification	Remark
602	**AH92-00534A**	**ASSY PCB-J ACK;DVD-A500,J ACK**	
605	AH63-00105A	GROUND-REAR;-,PBS,T0.2,-,DVS3000	
AC014	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC015	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC053	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC054	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC101	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC102	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC103	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC104	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC105	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC107	2203-000560	C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP,	
AC108	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	
AC109	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	
AC21	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC22	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC23	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC301	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
AC302	2203-000372	C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608,	
AC303	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC304	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC306	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC411	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC412	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC421	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
AC422	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
AC431	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
AC433	2203-000783	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,1608	
AC451	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
AC453	2203-000783	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,1608	
AC611	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC612	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
AC613	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC614	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
AC62	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC621	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC622	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
AC623	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
AC624	2203-001567	C-CERAMIC,CHIP;0.01nF,0.5pF,50V,NP0,TP,1	
AC671	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
AC672	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
AD031	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
AD032	0403-001079	DIODE-ZENER;UDZ3.9B,7%,200MW,SOD-323,TP	
AD411	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD412	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD702	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD801	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD802	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD852	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AD902	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
AE001	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE002	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE003	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE014	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE015	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE031	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
AE032	2401-001353	C-AL;470uF,20%,10V,GP,TP,8x11.5,5	
AE051	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
AE052	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
AE053	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE054	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE101	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE102	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE103	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE11	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE12	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	

Loc.No	Part No	Description ; Specification	Remark
AE13	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
AE14	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE21	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE301	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE302	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE304	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE305	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE307	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE411	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE412	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
AE421	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE422	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE431	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
AE432	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
AE433	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE451	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
AE452	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
AE453	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE611	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE612	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE613	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE614	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE621	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE622	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE623	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE624	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
AE671	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE672	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
AE673	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AE674	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
AIC05	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
AIC1	1204-001629	IC-DECODER;CS492604-CL,PLCC,44P,-,PLASTI	
AIC2	1102-001108	IC-EPROM ;27C020,256Kx8Bit,PLCC,32P,495M	
AIC21	0801-001127	IC-CMOS LOGIC;74VHC574,FLIP-FLOP,SOP,20P	
AIC22	0801-001127	IC-CMOS LOGIC;74VHC574,FLIP-FLOP,SOP,20P	
AIC3	1205-001442	IC-CODEC;CS4226-KQ,QFP,44P,-,PLASTIC,6V	
AIC41	1002-001129	IC-D/A CONVERTER;AK4324VF,24BIT,VSOP,24P	
AIC42	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
AIC6	0801-000010	IC-CMOS LOGIC;4052,MULTIPLEXER,SOP,16P,1	
AIC61	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
AIC62	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
AIC67	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
AL001	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL002	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL003	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL011	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL11	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL21	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL301	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL302	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL411	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AL412	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
AQ031	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
AQ032	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
AQ033	0504-001003	TR-DIGITAL;KSR2003,PNP,300MW,22K/22K,TO-	
AQ051	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ052	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ053	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ054	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ411	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ412	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ701	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
AQ702	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
AQ703	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ704	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ753	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ754	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ801	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
AQ802	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
AQ803	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ804	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ851	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
AQ852	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
AQ853	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ854	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ901	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
AQ902	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
AQ903	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ904	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ953	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AQ954	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
AR001	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
AR011	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR012	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR016	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR031	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
AR032	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR033	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR053	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR054	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR055	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR056	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR057	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR058	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR059	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR060	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR061	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
AR062	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
AR063	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR064	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR066	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR112	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR113	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
AR114	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
AR12	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
AR14	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
AR15	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
AR16	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
AR17	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR18	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR19	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR21	2011-001011	R-NETWORK;10Kohm,5%,63mW,L,CHIP,8P,TP	
AR22	2011-001011	R-NETWORK;10Kohm,5%,63mW,L,CHIP,8P,TP	
AR23	2011-001011	R-NETWORK;10Kohm,5%,63mW,L,CHIP,8P,TP	
AR24	2011-001011	R-NETWORK;10Kohm,5%,63mW,L,CHIP,8P,TP	
AR301	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR302	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR303	2007-000913	R-CHIP;43Kohm,5%,1/16W,DA,TP,1608	
AR304	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
AR305	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR306	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR309	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR310	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR311	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR312	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR313	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR314	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR315	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR316	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR317	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR318	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR319	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	

Loc.No	Part No	Description ; Specification	Remark
AR320	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR321	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR322	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR323	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR324	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR325	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
AR411	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR412	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR413	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR414	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR415	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR431	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR432	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR433	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR434	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR435	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR436	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR437	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR441	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR442	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR443	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR444	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR451	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR452	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR453	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR454	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR455	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR456	2007-001056	R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608	
AR457	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
AR61	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR611	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
AR612	2007-000099	R-CHIP;62Kohm,5%,1/16W,DA,TP,1608	
AR613	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
AR614	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
AR62	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR621	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
AR622	2007-000099	R-CHIP;62Kohm,5%,1/16W,DA,TP,1608	
AR623	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
AR624	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
AR63	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR64	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR65	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR66	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
AR671	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
AR672	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
AR711	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR712	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR713	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR714	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR715	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR716	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR762	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR763	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR764	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR765	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR766	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR811	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR812	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR813	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR814	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR815	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR816	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR861	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR862	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR863	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR864	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR865	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR866	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR911	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR912	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR913	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR914	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR915	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR916	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR962	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR963	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AR964	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
AR965	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
AR966	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	
AX31	2804-000338	OSCILLATOR-CLOCK;12.288MHz,100ppm,10 TTL	
BC103	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC104	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC105	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC151	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC152	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC171	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC172	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC203	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC204	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC205	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC303	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC304	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC305	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC351	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC352	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC371	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC372	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC403	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC404	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC405	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC503	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC504	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC505	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC551	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC552	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC571	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC572	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC603	2203-001126	C-CERAMIC,CHIP;0.68nF,10%,50V,X7R,TP,160	
BC604	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
BC605	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	
BC701	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC702	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC721	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BC722	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
BE101	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE102	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BE111	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE201	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE202	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BE211	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE301	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE302	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BE304	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE401	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE402	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BE404	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE501	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE502	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BE504	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE601	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
BE602	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5	
BE701	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	

Loc.No	Part No	Description ; Specification	Remark
BE702	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
BIC15	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC17	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC35	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC37	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC55	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC57	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC70	1201-000163	IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m	
BIC72	0801-000972	IC-CMOS LOGIC;4053,MUTIPLEXER,SOP,16P,15	
BR101	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR102	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR103	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR104	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR105	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR111	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR112	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR113	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
BR114	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
BR201	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR202	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR203	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR204	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR205	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR211	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR212	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR213	2007-000329	R-CHIP;11Kohm,5%,1/16W,DA,TP,1608	
BR214	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
BR301	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR302	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR303	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR304	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR305	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR310	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR311	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR312	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
BR401	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR402	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR403	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR404	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR405	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR410	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR411	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR412	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
BR501	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR502	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR503	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR504	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR505	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR510	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR511	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR512	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
BR601	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
BR602	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR603	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR604	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR605	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
BR609	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
BR611	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
BR612	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
BR701	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
BR702	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
BR703	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
BR704	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
CONNA	3711-004428	CONNECTOR-HEADER;BOX,18P,1R,2.5mm,ANGLE,	
CONNF	3708-001084	CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN	
CONNH	AH39-00161A	LEAD CONNECTOR-ASSY;-,-,-,-,-,-,-,-,5264	
CONNM	3708-000277	CONNECTOR-FPC/FC/PIC;35P,1.25mm,ANGLE,SN	
CONNP	AH39-00145A	LEAD CONNECTOR-ASSY;-,-,-,-,-,-,-,-,5264	
EC11	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
EC21	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
EC31	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
EC32	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
ED21	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
ED22	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
EE21	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
EE22	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
EE23	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
EIC1	0801-000972	IC-CMOS LOGIC;4053,MUTIPLEXER,SOP,16P,15	
EIC2	1201-001063	IC-OP AMP;2267,SOP,8P,300MIL,DUAL,6.7dB,	
EL21	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
EL22	2702-000142	INDUCTOR-RADIAL;22uH,5%,6x6.4mm	
EL51	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
EL52	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
EQ202	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
EQ203	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
EQ204	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
EQ205	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
EQ206	0501-000314	TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23,	
EQ207	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
EQ208	0501-000314	TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23,	
EQ209	0504-000128	TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP	
EQ210	0504-000156	TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K	
EQ211	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
ER11	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
ER13	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
ER202	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
ER203	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
ER204	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
ER205	2007-000081	R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608	
ER206	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
ER207	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
ER208	2007-000120	R-CHIP;680ohm,5%,1/16W,DA,TP,1608	
ER209	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
ER210	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
ER211	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
ER212	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
ER31	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
ER32	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
ER33	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
ER34	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
ER51	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	
ER52	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	
JACKEU	3722-001359	JACK-SCART;21P,-,SN,BLK,#20-28	
JACKRI	3722-001353	JACK-RCA;6P,3.2MM,NI,YEL/WHT/RED,-	
JACKRO	3722-001353	JACK-RCA;6P,3.2MM,NI,YEL/WHT/RED,-	
JACKSO	3722-001375	JACK-DIN;4P,-,NI,BLK,-	
JACKSW	3722-001053	JACK-RCA;1P,3.2mm,NI,BLK,-	
JACKV	3408-000277	SWITCH-SLIDE;50V,300mA,DP3T,-,KSA-2372	
MD13	0407-000114	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	
MQ11	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
MQ12	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
MQ13	0501-000341	TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT-	
MR12	2007-000081	R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608	
MR13	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
MR14	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
MR15	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
MR16	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
MR17	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
MR21	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
MR23	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
TC101	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC102	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	

Loc.No	Part No	Description ; Specification	Remark
TC103	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC104	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC105	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC106	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC107	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC108	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC109	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC110	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC111	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC112	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
TC113	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC114	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC115	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC116	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC117	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC21	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC22	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC41	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC51	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TC61	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
TE001	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE002	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE003	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE11	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE12	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE13	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE14	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE15	2401-001353	C-AL;470uF,20%,10V,GP,TP,8x11.5,5	
TE21	2401-002042	C-AL;220uF,20%,10V,GP,TP,6.3x11,5	
TE22	2401-001353	C-AL;470uF,20%,10V,GP,TP,8x11.5,5	
TE23	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
TE24	2401-001353	C-AL;470uF,20%,10V,GP,TP,8x11.5,5	
TE25	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
TE302	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
TE303	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
TE304	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
TE305	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
TE306	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
TE307	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
TE51	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
TE52	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
TIC1	1204-001366	IC-VIDEO ENCODER;SAA7128,QFP,44P,-,PLAST	
TIC2	1201-001419	IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB,	
TIC3	1201-001419	IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB,	
TIC4	0801-000010	IC-CMOS LOGIC;4052,MULTIPLEXER,SOP,16P,1	
TIC5	0801-000010	IC-CMOS LOGIC;4052,MULTIPLEXER,SOP,16P,1	
TL001	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
TL002	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
TL003	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
TL1	2702-000142	INDUCTOR-RADIAL;22uH,5%,6x6.4mm	
TL11	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
TL12	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
TL13	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
TL2	2702-000142	INDUCTOR-RADIAL;22uH,5%,6x6.4mm	
TL21	3301-000353	CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,-	
TR002	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
TR011	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR012	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR013	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR014	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR015	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR016	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR101	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR102	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR103	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR104	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR105	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR106	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR107	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR108	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR109	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR110	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
TR111	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
TR112	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
TR113	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
TR121	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
TR123	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
TR125	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
TR201	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
TR202	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
TR203	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
TR204	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
TR205	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
TR206	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
TR207	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR208	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR209	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR210	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR301	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
TR302	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
TR304	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
TR306	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
TR308	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
TR312	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
TR321	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR322	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR323	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR326	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
TR44	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
TR51	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
TR52	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
603	**AH92-00543A**	**ASSY PCB-SMPS;DVD-A500,SMPS**	
CN12	3711-003358	CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH	
CN12	AH39-00146A	LEAD CONNECTOR-ASSY;-,-,-,-,-,-,-,-,-,5264	
CNFRNT	3711-003108	CONNECTOR-HEADER;BOX,7P,1R,2.5mm,STRAIGH	
CNJACK	3711-000588	CONNECTOR-HEADER;BOX,10P,1R,2.5mm,STRAIG	
PC01	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
PC02	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
PC03	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PC04	2301-000140	C-FILM,PEF;10nF,10%,630V,BK,16.5X9.5X5.7	⚠
PC05	2201-000129	C-CERAMIC,DISC;0.1nF,10%,1kV,Y5P,TP,7x4,	
PC06	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	⚠
PC07	2301-000129	C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m	
PC09	2301-000415	C-FILM,PEF;22nF,5%,50V,TP,6.5x10.5x4mm,5	
PC10	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	⚠
PC11	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	⚠
PC12	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PC13	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PC14	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PC15	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PC44	2301-000129	C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m	
PC6	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
PCN01	3711-000190	CONNECTOR-HEADER;1WALL,2P,1R,7.92mm,STRA	⚠
PCN02	3711-000190	CONNECTOR-HEADER;1WALL,2P,1R,7.92mm,STRA	⚠
PD01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
PD02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
PD03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
PD04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
PD11	0402-000378	DIODE-RECTIFIER;EG01C,1000V,500mA,DO-41	
PD12	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
PD3	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	

Loc.No	Part No	Description ; Specification	Remark
PD31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
PD32	0402-000430	DIODE-RECTIFIER;FML-G02S,200V,3.0A,TO-22	
PD33	0402-001251	DIODE-RECTIFIER;FMG-22R,200V,10A,TO-220F	
PD34	0402-001251	DIODE-RECTIFIER;FMG-22R,200V,10A,TO-220F	
PD35	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
PD36	0402-000430	DIODE-RECTIFIER;FML-G02S,200V,3.0A,TO-22	
PD37	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
PD38	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
PE10	2401-001353	C-AL;470uF,20% ,10V,GP,TP,8x11.5,5	
PE11	2401-000302	C-AL;100uF,20% ,25V,GP,TP,6.3x11,5	
PE12	2401-000302	C-AL;100uF,20% ,25V,GP,TP,6.3x11,5	
PE14	2401-002042	C-AL;220uF,20% ,10V,GP,TP,6.3x11,5	
PE15	2401-001134	C-AL;330uF,20% ,35V,WT,TP,10x16,5	
PE21	2401-001998	C-AL;1000uF,20% ,25V,GP,TP,10x20,5mm	
PE22	2401-002036	C-AL;1uF,20% ,50V,GP,TP,5x11,2.5	
PE3	2401-001682	C-AL;82uF,20% ,400V,GP,BK,22x25,10	
PE31	2401-000302	C-AL;100uF,20% ,25V,GP,TP,6.3x11,5	
PE32	2401-001998	C-AL;1000uF,20% ,25V,GP,TP,10x20,5mm	
PE33	2401-001998	C-AL;1000uF,20% ,25V,GP,TP,10x20,5mm	
PE35	2401-000360	C-AL;100uF,20% ,50V,GP,TP,8x11.5,5	
PE36	2401-001998	C-AL;1000uF,20% ,25V,GP,TP,10x20,5mm	
PE37	2401-001134	C-AL;330uF,20% ,35V,WT,TP,10x16,5	
PE38	2401-002144	C-AL;47uF,20% ,16V,GP,TP,5x11,5	
PE39	2401-001134	C-AL;330uF,20% ,35V,WT,TP,10x16,5	
PE4	2401-000302	C-AL;100uF,20% ,25V,GP,TP,6.3x11,5	
PE41	2401-002036	C-AL;1uF,20% ,50V,GP,TP,5x11,2.5	
PE42	2401-002144	C-AL;47uF,20% ,16V,GP,TP,5x11,5	
PE43	2401-002144	C-AL;47uF,20% ,16V,GP,TP,5x11,5	
PE44	2401-002036	C-AL;1uF,20% ,50V,GP,TP,5x11,2.5	
PE6	2401-001583	C-AL;47uF,20% ,50V,WT,TP,6.3x11,5	
PF01	3601-001123	FUSE-CARTRIDGE;250V,1.6A,TIME-LAG,CERAMI	⚠
PF02	3601-001214	FUSE-FERRULE;250V,1.6A,FAST-ACTING,GLASS	⚠
PIC1	1203-001721	IC-PWM CONTROLLER;STR-G6153T,TO-220,5P,1	⚠
PIC2	0604-000186	PHOTO-COUPLER;TR,-,200mW,DIP-4,ST	⚠
PIC3	AC14-12006D	IC;KA431Z,TO-92,TAPING	
PIC4	1203-000122	IC-NEGA.FIXED REG.;7908,TO-220,3P,-,PLAS	
PIC5	1203-001697	IC-VOLTAGE REGULATOR;78R08,TO-220,4P,-,P	
PIC6	1203-001083	IC-VOLTAGE REGULATOR;3RF23,TO-202,4P,12.	
PIC7	1203-001083	IC-VOLTAGE REGULATOR;3RF23,TO-202,4P,12.	
PL01	AC29-30050A	FILTER-LINE NOISE;-,400UH,-,250V,-	⚠
PL02	AC27-92001Q	COIL-LINE FILTER;BSF-2120Z,25MH,-,-,-	⚠
PL03	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
PL04	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
PL11	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
PQ1	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
PQ2	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
PQ21	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T	
PQ22	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
PQ23	0502-000298	TR-POWER;KSD73,NPN,30W,TO-220,-,120-240	
PQ24	0502-000298	TR-POWER;KSD73,NPN,30W,TO-220,-,120-240	
PQ3	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
PQ4	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T	
PR10	2006-000262	R-CEMENT;2.7ohm,10% ,2W,CB,TP,7.5x11x20.	
PR11	2001-000073	R-CARBON;33KOHM ,5% ,1/4W,AA,TP,2.4X6.4MM	
PR12	2001-000073	R-CARBON;33KOHM ,5% ,1/4W,AA,TP,2.4X6.4MM	
PR13	2001-000073	R-CARBON;33KOHM ,5% ,1/4W,AA,TP,2.4X6.4MM	
PR14	2001-000073	R-CARBON;33KOHM ,5% ,1/4W,AA,TP,2.4X6.4MM	
PR15	2003-000273	R-METAL OXIDE;33Kohm,5% ,2W,AA,TP,6x16mm	
PR16	2003-000273	R-METAL OXIDE;33Kohm,5% ,2W,AA,TP,6x16mm	
PR17	2003-000148	R-METAL OXIDE;100OHM ,5% ,2W,AE,TP,6X16MM	
PR18	2001-000666	R-CARBON;33OHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR2	2003-000148	R-METAL OXIDE;100OHM ,5% ,2W,AE,TP,6X16MM	
PR20	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR21	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR22	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR3	2001-000734	R-CARBON;4.7KOHM ,5% ,1/8W,AA,TP,1.8X3.2M	

Loc.No	Part No	Description ; Specification	Remark
PR31	2001-000034	R-CARBON;220OHM ,5% ,1/4W,AA,TP,2.4X6.4MM	
PR32	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR33	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR34	2001-000440	R-CARBON;1OHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR35	2001-000362	R-CARBON;150OHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR36	2001-000221	R-CARBON;1.2KOHM ,5% ,1/8W,AA,TP,1.8X3.2M	
PR37	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR38	2004-000869	R-METAL;3Kohm,1% ,1/8W,AA,TP,1.8x3.2mm	
PR39	2004-000459	R-METAL;2.2Kohm,1% ,1/8W,AA,TP,1.8x3.2m	
PR4	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR40	2003-000111	R-METAL OXIDE;0.47ohm,5% ,1W,AD,TP,4.3x12	
PR44	2001-000273	R-CARBON;100KOHM ,5% ,1/8W,AA,TP,1.8X3.2M	
PR5	2001-000281	R-CARBON;100OHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PR6	2001-000429	R-CARBON;1KOHM ,5% ,1/8W,AA,TP,1.8X3.2MM	
PSW1	3403-001094	SWITCH-PUSH;250V AC,5A/80A,SPST,SELF LOC	⚠
PT01	AH26-00038A	TRANS-SWITCHING;-,-,-,-,IEC-950,-,560uH,	⚠
PVA01	1405-000186	VARISTOR;470V,4500A,17x12mm,TP	⚠
PZD31	0403-000716	DIODE-ZENER;MTZJ 4.7B,4.7V,4.55-4.8V,500m	
RC12	2201-000812	C-CERAMIC,DISC;2.2nF,20% ,400V,Y5U,BK,12.	⚠
RC13	2201-000812	C-CERAMIC,DISC;2.2nF,20% ,400V,Y5U,BK,12.	⚠
RL03	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
VL113	2701-000138	INDUCTOR-AXIAL;18uH,5% ,2.5x3.4mm	
VL115	2701-000002	INDUCTOR-AXIAL;100uH,10% ,4.2x9.8mm	
VL116	2701-000002	INDUCTOR-AXIAL;100uH,10% ,4.2x9.8mm	
604	**AH92-00254A**	**ASSY-PCB-AMP;DVS3000,AMP**	
C101	2201-000557	C-CERAMIC,DISC;0.47nF,10% ,50V,SL,TP,8x3.	
C102	2202-000806	C-CERAMIC,MLC-AXIAL;220pF,10% ,50V,Y5P,TP	
C103	2201-000507	C-CERAMIC,DISC;0.003nF,0.25pF,50V,NP0,TP	
C104	2301-000129	C-FILM ,PEF;100nF,5% ,50V,TP,10X9X4.3X5,5m	
C301	2201-000557	C-CERAMIC,DISC;0.47nF,10% ,50V,SL,TP,8x3.	
C302	2202-000806	C-CERAMIC,MLC-AXIAL;220pF,10% ,50V,Y5P,TP	
C303	2201-000507	C-CERAMIC,DISC;0.003nF,0.25pF,50V,NP0,TP	
C304	2301-000129	C-FILM ,PEF;100nF,5% ,50V,TP,10X9X4.3X5,5m	
C501	2201-000557	C-CERAMIC,DISC;0.47nF,10% ,50V,SL,TP,8x3.	
C502	2202-000806	C-CERAMIC,MLC-AXIAL;220pF,10% ,50V,Y5P,TP	
C503	2201-000507	C-CERAMIC,DISC;0.003nF,0.25pF,50V,NP0,TP	
C504	2301-000129	C-FILM ,PEF;100nF,5% ,50V,TP,10X9X4.3X5,5m	
C701	2201-000557	C-CERAMIC,DISC;0.47nF,10% ,50V,SL,TP,8x3.	
C702	2202-000806	C-CERAMIC,MLC-AXIAL;220pF,10% ,50V,Y5P,TP	
C703	2201-000507	C-CERAMIC,DISC;0.003nF,0.25pF,50V,NP0,TP	
C704	2301-000129	C-FILM ,PEF;100nF,5% ,50V,TP,10X9X4.3X5,5m	
C901	2201-000557	C-CERAMIC,DISC;0.47nF,10% ,50V,SL,TP,8x3.	
C902	2202-000806	C-CERAMIC,MLC-AXIAL;220pF,10% ,50V,Y5P,TP	
C903	2201-000507	C-CERAMIC,DISC;0.003nF,0.25pF,50V,NP0,TP	
C904	2301-000129	C-FILM ,PEF;100nF,5% ,50V,TP,10X9X4.3X5,5m	
CNFAN	3711-000820	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,STRAIGH	
CNJACK	AH39-00149A	LEAD CONNECTOR-ASSY;-,-,-,-,-,-,-,-,5264	
CNSPK2	3716-001132	TERMINAL-BLOCK;SOLDER,4P,-,-,-	
CNSPK3	3716-001131	TERMINAL-BLOCK;SOLDER,6P,-,-,-	
CNTRNS	3711-000270	CONNECTOR-HEADER;1WALL,5P,1R,3.96mm,STRA	
D001	0402-001203	DIODE-BRIDGE;PBPC1004,400V,10A,SQUARE-4,	
D002	0402-001203	DIODE-BRIDGE;PBPC1004,400V,10A,SQUARE-4,	
D003	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
D111	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D201	0403-000370	DIODE-ZENER;MTZJ 8.2C,8.2V,8.03-8.45V,500	
D202	0403-000370	DIODE-ZENER;MTZJ 8.2C,8.2V,8.03-8.45V,500	
D251	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
D311	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D511	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D551	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
D601	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D711	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D801	0403-000370	DIODE-ZENER;MTZJ 8.2C,8.2V,8.03-8.45V,500	
D802	0403-000370	DIODE-ZENER;MTZJ 8.2C,8.2V,8.03-8.45V,500	
D851	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	

Loc.No	Part No	Description ; Specification	Remark
D911	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
E001	2401-003466	C-AL;8200UF,20%,63V,GP,BK,30X50MM,1	
E002	2401-003466	C-AL;8200UF,20%,63V,GP,BK,30X50MM,1	
E003	2401-003467	C-AL;4700UF,20%,35V,GP,BK,22X30MM,1	
E004	2401-003467	C-AL;4700UF,20%,35V,GP,BK,22X30MM,1	
E005	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E101	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E102	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
E201	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
E202	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
E203	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E204	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E205	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E206	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E301	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E302	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
E412	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
E501	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E502	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
E601	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
E602	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
E701	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E702	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
E801	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
E802	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
E803	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E804	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E805	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E806	2401-003298	C-AL;100uF,20%,63V,GP,TP,8x11.5,5	
E901	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
E902	2401-000240	C-AL;100uF,20%,10V,GP,TP,5x11,5	
I200	0205-001027	OIL-SILICON;G746,-,-	
I200	1201-001507	IC-POWER AMP;402,SIP,19P,-,-,30DB,PLASTI	
I800	0205-001027	OIL-SILICON;G746,-,-	
I800	1201-001506	IC-POWER AMP;402,SIP,23P,-,-,30DB,PLASTI	
L101	AH27-00030A	COIL-CHOKE;-,3UH,10%,-,3.0A,-,-,-,-,-	
L251	3501-001023	RELAY-POWER;12Vdc,530mW,2A,2FormA,15ms,5	
L301	AH27-00030A	COIL-CHOKE;-,3UH,10%,-,3.0A,-,-,-,-,-	
L501	AH27-00030A	COIL-CHOKE;-,3UH,10%,-,3.0A,-,-,-,-,-	
L551	3501-001023	RELAY-POWER;12Vdc,530mW,2A,2FormA,15ms,5	
L601	2701-000113	INDUCTOR-AXIAL;100uH,5%,2.5x3.4mm	
L701	AH27-00030A	COIL-CHOKE;-,3UH,10%,-,3.0A,-,-,-,-,-	
L851	3501-001023	RELAY-POWER;12Vdc,530mW,2A,2FormA,15ms,5	
L901	AH27-00030A	COIL-CHOKE;-,3UH,10%,-,3.0A,-,-,-,-,-	
Q111	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q251	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q252	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q311	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q411	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q412	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q413	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q511	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q551	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q552	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q601	0501-000369	TR-SMALL SIGNAL;KSC2331-Y,NPN,1W,TO-92L,	
Q602	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q711	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q851	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q852	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q911	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
R001	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R101	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R102	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R103	2001-000045	R-CARBON;1.8KOHM,5%,1/4W,AA,TP,2.4X6.4M	
R104	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R105	2001-001146	R-CARBON(S);4.7OHM,5%,1/2W,AA,TP,2.4X6.4	
R106	2003-000689	R-METAL OXIDE(S);4.7ohm,5%,1W,AA,TP,3.3x	
R109	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R110	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R111	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R112	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R113	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R114	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R201	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R202	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R203	2001-000065	R-CARBON;10KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R204	2003-000008	R-METAL OXIDE(S);100ohm,5%,1W,AA,TP,3.3x	
R205	2003-000008	R-METAL OXIDE(S);100ohm,5%,1W,AA,TP,3.3x	
R251	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R252	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R301	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R302	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R303	2001-000045	R-CARBON;1.8KOHM,5%,1/4W,AA,TP,2.4X6.4M	
R304	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R305	2001-001146	R-CARBON(S);4.7OHM,5%,1/2W,AA,TP,2.4X6.4	
R306	2003-000689	R-METAL OXIDE(S);4.7ohm,5%,1W,AA,TP,3.3x	
R309	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R310	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R311	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R312	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R313	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R314	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R411	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R412	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R413	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R414	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R415	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R416	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R417	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R501	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R502	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R503	2001-000045	R-CARBON;1.8KOHM,5%,1/4W,AA,TP,2.4X6.4M	
R504	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R505	2001-001146	R-CARBON(S);4.7OHM,5%,1/2W,AA,TP,2.4X6.4	
R506	2003-000689	R-METAL OXIDE(S);4.7ohm,5%,1W,AA,TP,3.3x	
R509	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R510	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R511	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R512	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R513	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R514	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R551	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R552	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R601	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R602	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R603	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R604	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R701	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R702	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R703	2001-000045	R-CARBON;1.8KOHM,5%,1/4W,AA,TP,2.4X6.4M	
R704	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R705	2001-001146	R-CARBON(S);4.7OHM,5%,1/2W,AA,TP,2.4X6.4	
R706	2003-000689	R-METAL OXIDE(S);4.7ohm,5%,1W,AA,TP,3.3x	
R709	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R710	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R711	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R712	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R713	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R714	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R801	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R802	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R803	2001-000065	R-CARBON;10KOHM,5%,1/4W,AA,TP,2.4X6.4MM	

Loc.No	Part No	Description ; Specification	Remark
R804	2003-000008	R-METAL OXIDE(S);100ohm,5%,1W,AA,TP,3.3x	
R805	2003-000008	R-METAL OXIDE(S);100ohm,5%,1W,AA,TP,3.3x	
R851	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R852	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R901	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R902	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R903	2001-000045	R-CARBON;1.8KOHM,5%,1/4W,AA,TP,2.4X6.4M	
R904	2001-000078	R-CARBON;56KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R905	2001-001146	R-CARBON(S);4.7OHM,5%,1/2W,AA,TP,2.4X6.4	
R906	2003-000689	R-METAL OXIDE(S);4.7ohm,5%,1W,AA,TP,3.3x	
R909	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R910	2003-001019	R-METAL OXIDE;0.22ohm,5%,2W,AA,TP,3.9x10	
R911	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R912	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R913	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R914	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
Z411	0403-000717	DIODE-ZENER;MTZJ 5.1B,5.1V,4.94-5.2V,500m	
Z412	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
701	**AH92-00204A**	**ASSY-PCB-FRONT;AMP DVD,FRONT**	
FC1	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FC10	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FC14	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FC15	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FC16	2202-000173	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1	
FC2	2202-000162	C-CERAMIC,MLC-AXIAL;.015NF,5%,50V,SL,TP,	
FC3	2202-000162	C-CERAMIC,MLC-AXIAL;.015NF,5%,50V,SL,TP,	
FC4	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FC6	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
FCN1	3710-001550	CONNECTOR-SOCKET;8P,2R,2mm,ANGLE,AU15U	
FCN2	3710-001550	CONNECTOR-SOCKET;8P,2R,2mm,ANGLE,AU15U	
FCONNJ	3708-001084	CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN	
FCONNP	3711-001095	CONNECTOR-HEADER;BOX,7P,1R,2.5mm,ANGLE,S	
FCONNP	AH39-00147A	LEAD CONNECTOR-ASSY;-,-,-,-,-,-,-,-,-,5264	
FD10	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
FD4	0601-001447	LED;ROUND,RED,3.1mm,650nm	
FD5	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
FD6	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
FD7	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
FD8	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
FD9	0403-000551	DIODE-ZENER;MTZ3.9B,3.9V,3.89-4.16V,500m	
FE1	2401-000922	C-AL;22uF,20%,16V,GP,TP,5x5,5	
FE12	2401-000249	C-AL;100uF,20%,10V,GP,TP,6.3x5,2.5	
FE13	2401-000249	C-AL;100uF,20%,10V,GP,TP,6.3x5,2.5	
FE2	2401-001475	C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm	
FE5	2401-001475	C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm	
FE8	2401-001475	C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm	
FIC1	AH11-10002F	IC-MASK ROM;LC86P6232,-,DIP	
FIC2	1203-001252	IC-VOL. DETECTOR;7545,TO-92,3P,-,PLASTIC	
FIC4	AH59-60001J	MODULE-REMOCON;GP1U271R,38KHZ,-,MESH,-,	
FL1	2701-000114	INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm	
FL2	2701-000113	INDUCTOR-AXIAL;100uH,5%,2.5x3.4mm	
FQ10	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
FQ4	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
FR16	2001-000027	R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM	
FR17	2001-000027	R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM	
FR18	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR19	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR20	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR21	2001-000435	R-CARBON;1MOHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR25	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR31	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR32	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR33	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR34	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR35	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	

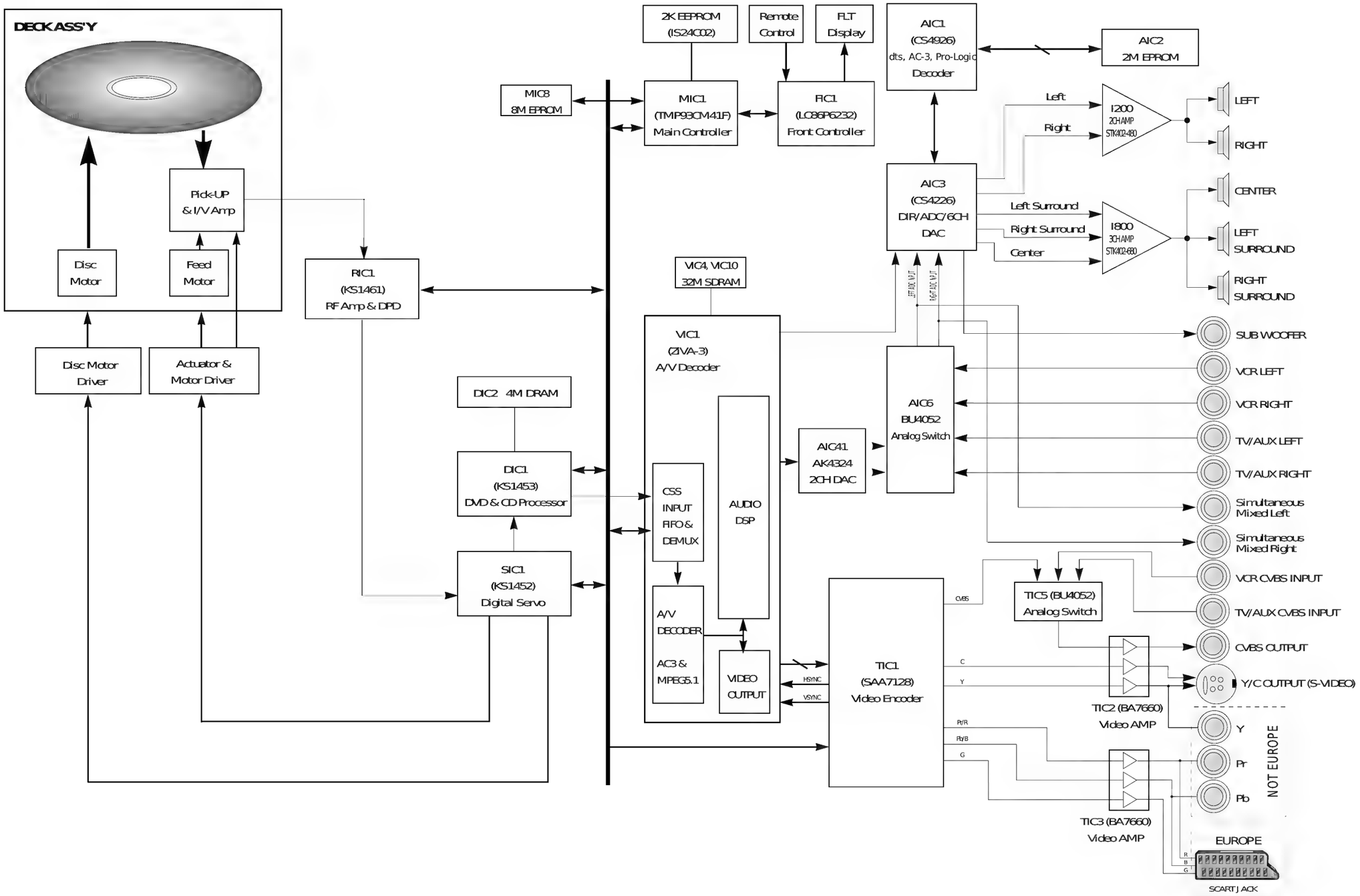
Loc.No	Part No	Description ; Specification	Remark
FR36	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR37	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR43	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR44	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR45	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR46	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR53	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FR64	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR98	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
FSW10	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW11	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW12	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW2	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FY1	2802-000108	RESONATOR-CERAMIC;12MHZ,0.5%,BK,10.0X5.0	
VFD1	AH07-00002A	VF-DISPLAY;SVV-08M,21SEG,25X100MM,DVD-90	
702	**AH92-00574A**	**ASSY PCB-KEY;DVD-A500,KEY**	
FD1	0601-001416	LED;ROUND,GRN,3.1mm,563nm	
FD2	0601-001416	LED;ROUND,GRN,3.1mm,563nm	
FD3	0601-001416	LED;ROUND,GRN,3.1mm,563nm	
FQ1	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
FQ2	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
FQ3	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO-	
FR61	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR62	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR63	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR65	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
FR66	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
FSW1	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW4	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW5	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW6	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW7	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW8	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FSW9	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
FVOL	3406-001048	SWITCH-ROTARY;DC 5V,0.5mA,-,12mm	
KCN1	3711-004388	CONNECTOR-HEADER;NOWALL,8P,2R,2mm,ANGLE,	
KCN2	3711-004388	CONNECTOR-HEADER;NOWALL,8P,2R,2mm,ANGLE,	
703	**AH92-00474A**	**ASSY PCB-HEADPHONE;DVD-A500,Headphone**	
HC11	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
HC12	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
HCON1	3711-001128	CONNECTOR-HEADER;BOX,8P,1R,2.5mm,ANGLE,S	
HE01	2401-001475	C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm	
HE02	2401-001475	C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm	
HE11	2401-001225	C-AL;4.7uF,20%,16V,GP,TP,3x5,5	
HE21	2401-001225	C-AL;4.7uF,20%,16V,GP,TP,3x5,5	
HIC1	1201-000191	IC-OP AMP;4558,DIP,8P,300MIL,DUAL,20V/mV	
HJACK1	3722-000363	JACK-PHONE;9P,6.4MM,AU,BLK,-	
HR11	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR12	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR13	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
HR14	2001-000666	R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR21	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR22	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR23	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
HR24	2001-000666	R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR31	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HR32	2001-000660	R-CARBON;33KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
HVOL1	2101-001054	VR-ROTARY;10KOHM,20%,1/20W,SIDE	

Loc.No	Part No	Description ; Specification	Remark
202	**AH92-00035A**	**ASSY-PCB-DECK;DP-3,-**	
CN1	3708-001081	CONNECTOR-FPC/FC/PIC;11P,1mm,STRAIGHT,SN	
CN2	3708-001001	CONNECTOR-FPC/FC/PIC;20P,1mm,SMD-A,SN	
CN4	3708-001108	CONNECTOR-FPC/FC/PIC;8P,1.0MM,ANGLE,SN	
CN5	3708-001084	CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN	
DC1	2203-000208	C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216	
DC2	2203-000208	C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216	
DC3	2203-000208	C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216	
DC4	2203-000612	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,3216	
DD1	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
DE1	2401-001507	C-AL;47uF,20%,16V,GP,TP,6.3x5,5	
DE2	2401-001507	C-AL;47uF,20%,16V,GP,TP,6.3x5,5	
DL1	3301-000325	CORE-FERRITE BEAD;AB,3.2x2.5x1.3mm,-,-	
DLED	0601-001372	LED;ROUND,GRN,3.5MM,621NM	
DR1	2007-000800	R-CHIP;360ohm,5%,1/8W,DA,TP,3216	
DR2	2007-000451	R-CHIP;180OHM,5%,1/8W,DA,TP,3216	
DR3	2007-000451	R-CHIP;180OHM,5%,1/8W,DA,TP,3216	
DR4	2007-000303	R-CHIP;10KOHM,5%,1/8W,DA,TP,3216	
DR5	2007-000303	R-CHIP;10KOHM,5%,1/8W,DA,TP,3216	
SW1	AH34-30001A	SWITCH-PUSH;2EA,6.65X7.5,-,DC5V	
SW2	3403-001001	SWITCH-PUSH;5V,5mA,-,OFF-ON	
SW3	3408-000323	SWITCH-SLIDE;12Vdc,100mA,SPDT,OFF-ON,-	

Loc.No	Part No	Description ; Specification	Remark

MEMO

10. Block Diagram



MEMO

11. PCB Diagrams

11-1 Main ---------- 11-2

11-2 Jack ---------- 11-3

11-3 S.M.P.S. ---------- 11-4

11-4 AMP ---------- 11-4

11-5 Front ---------- 11-5

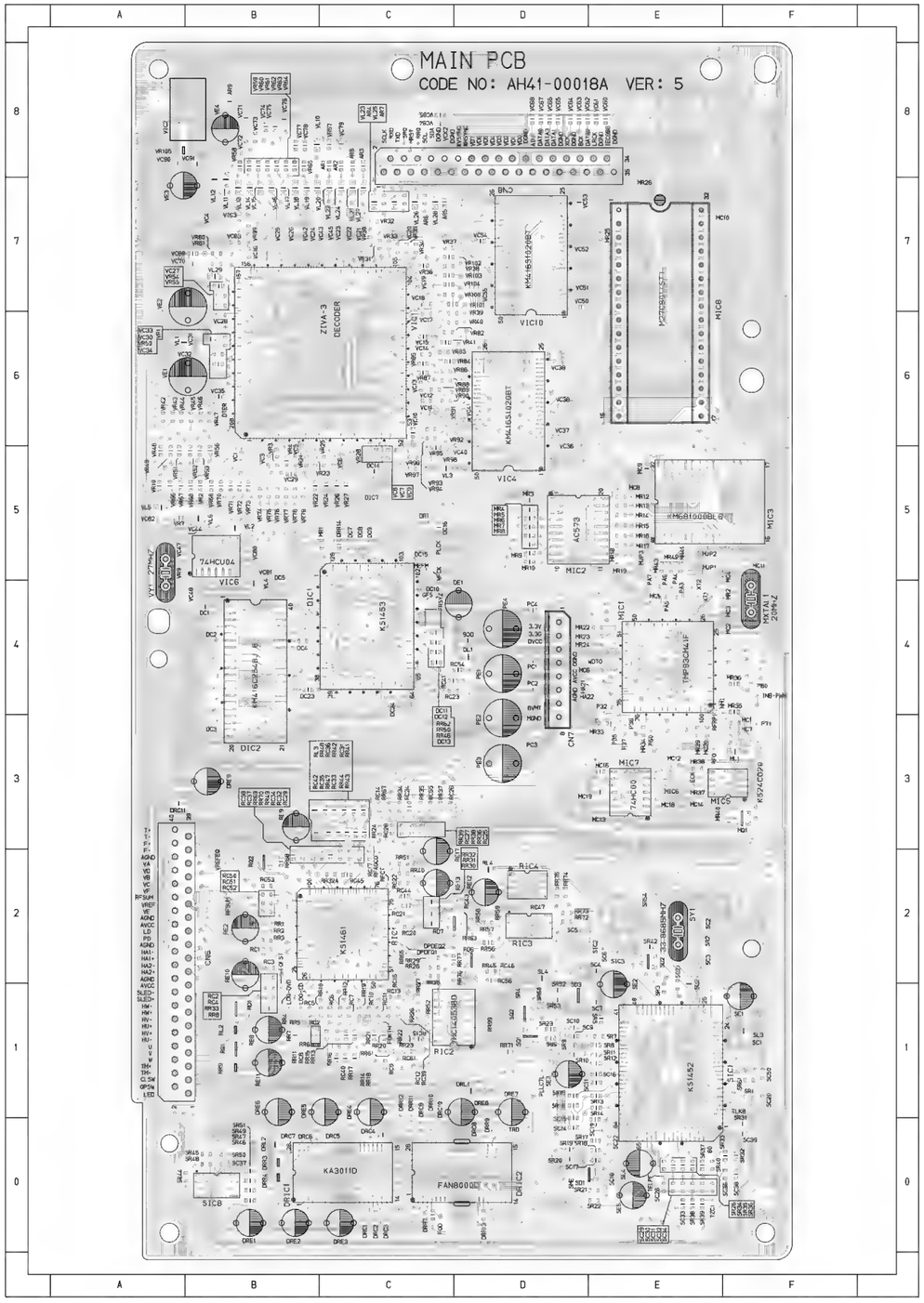
11-6 Headphone ---------- 11-6

11-7 Key ---------- 11-6

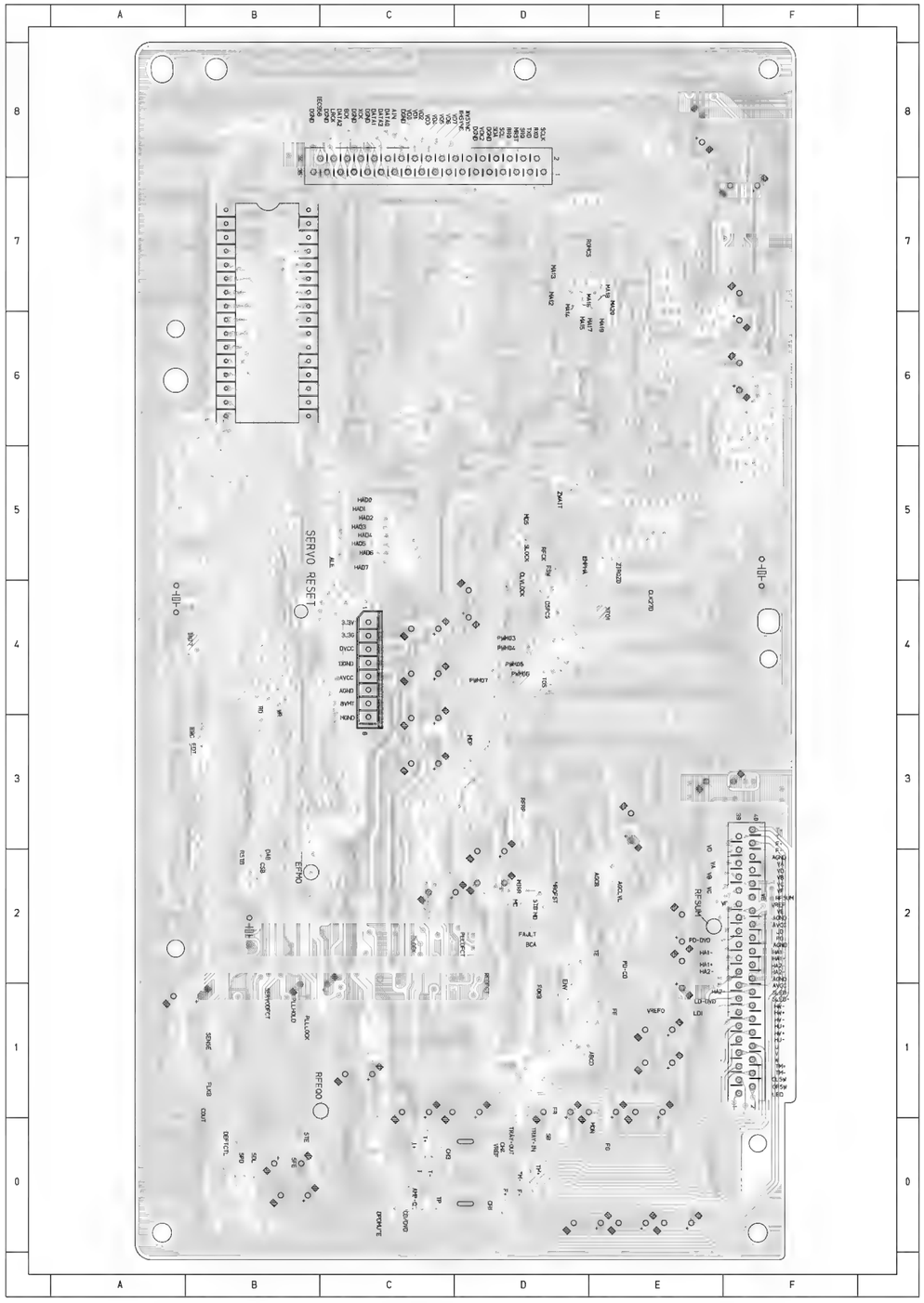
11-8 Deck ---------- 11-6

11-1 Main

COMPONENT SIDE

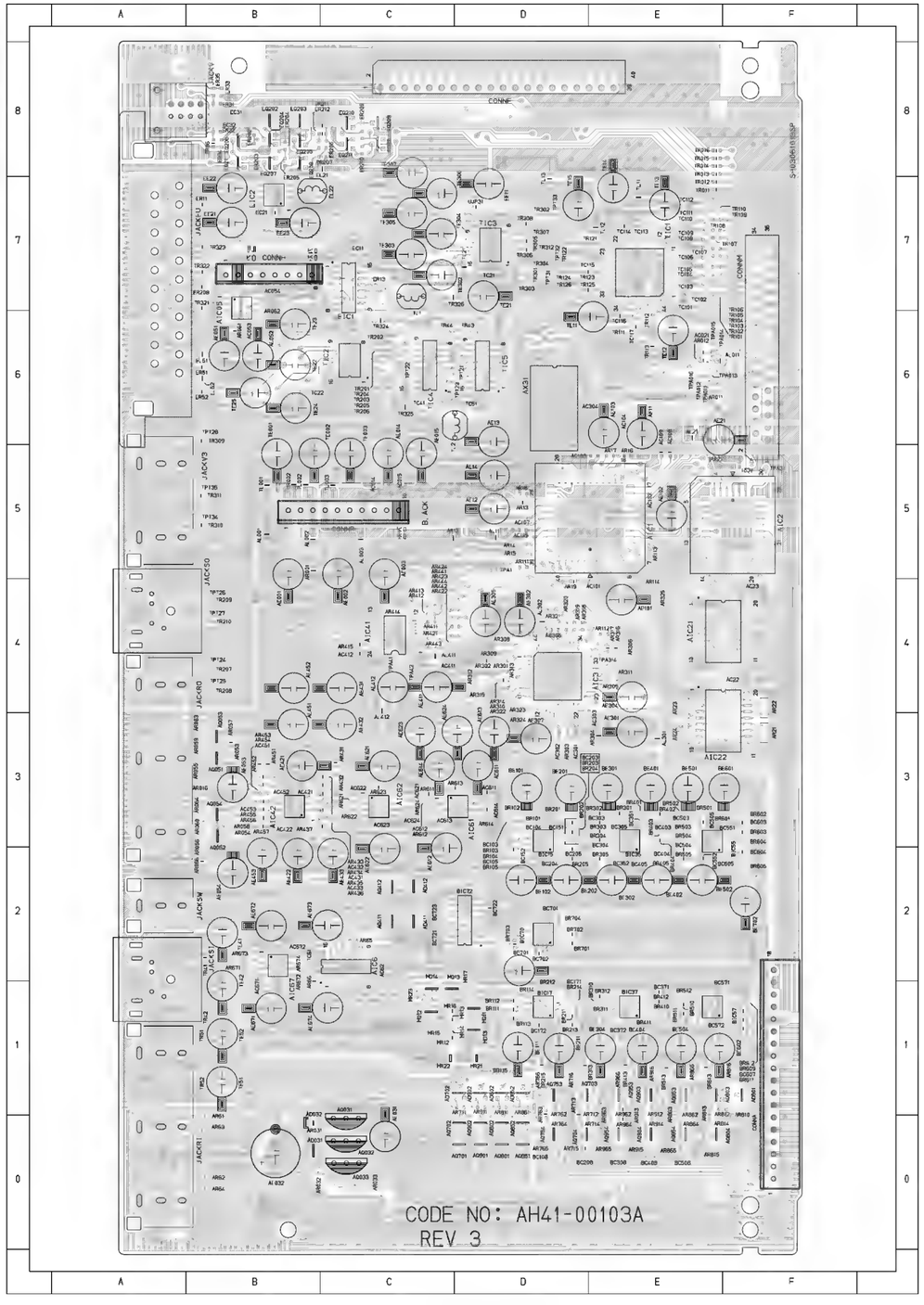


SOLDER SIDE



11-2 Jack

COMPONENT SIDE



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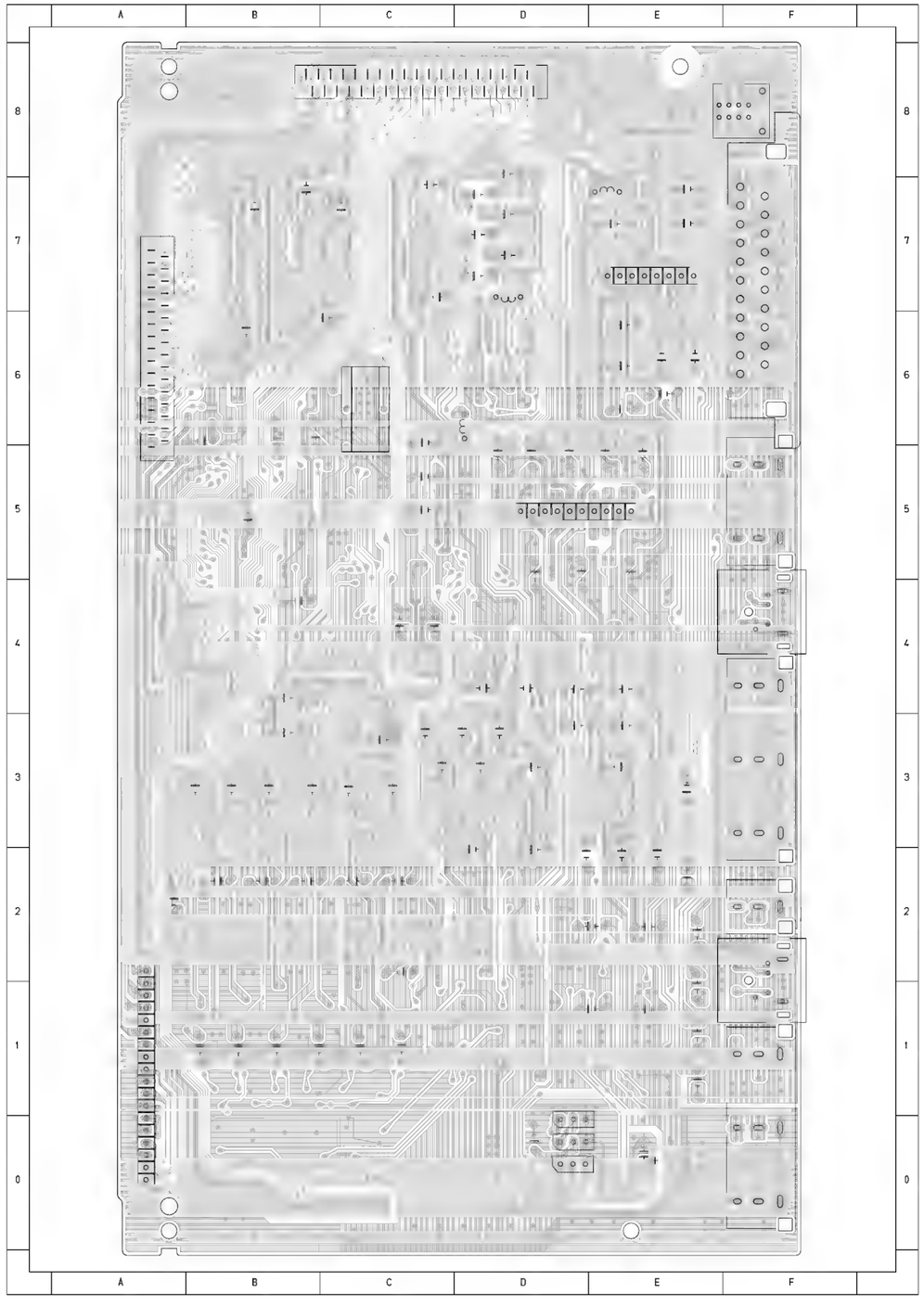
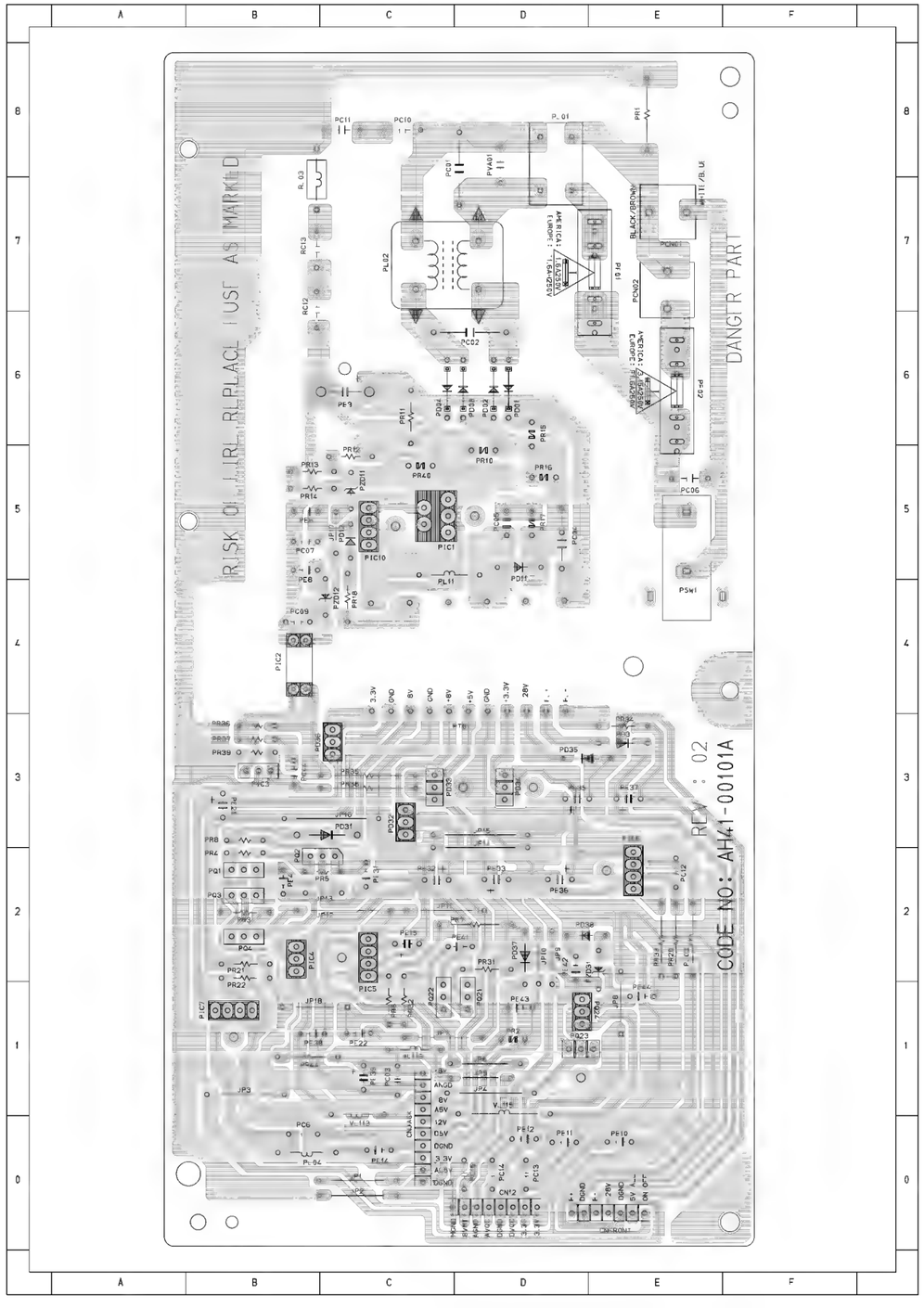
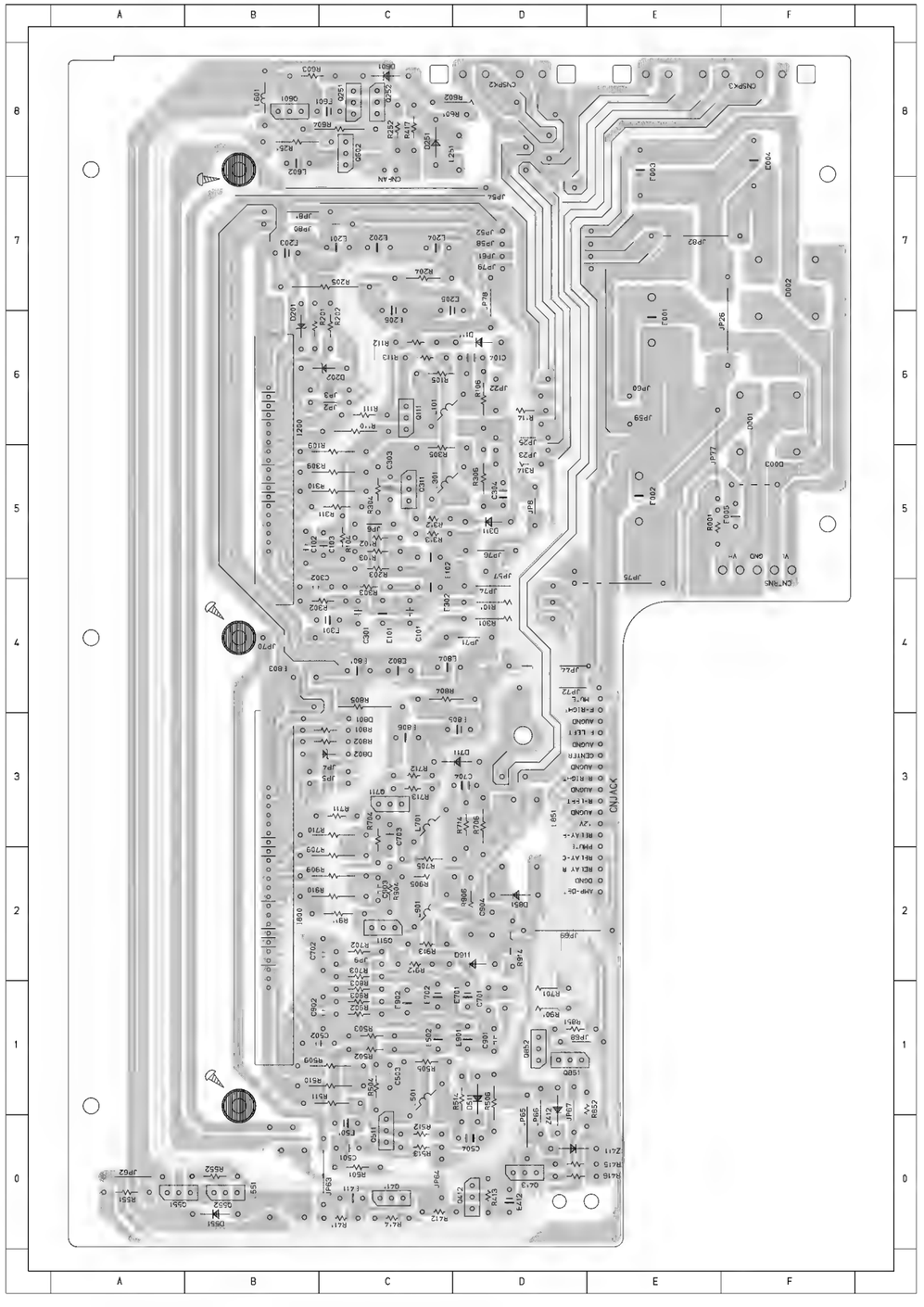


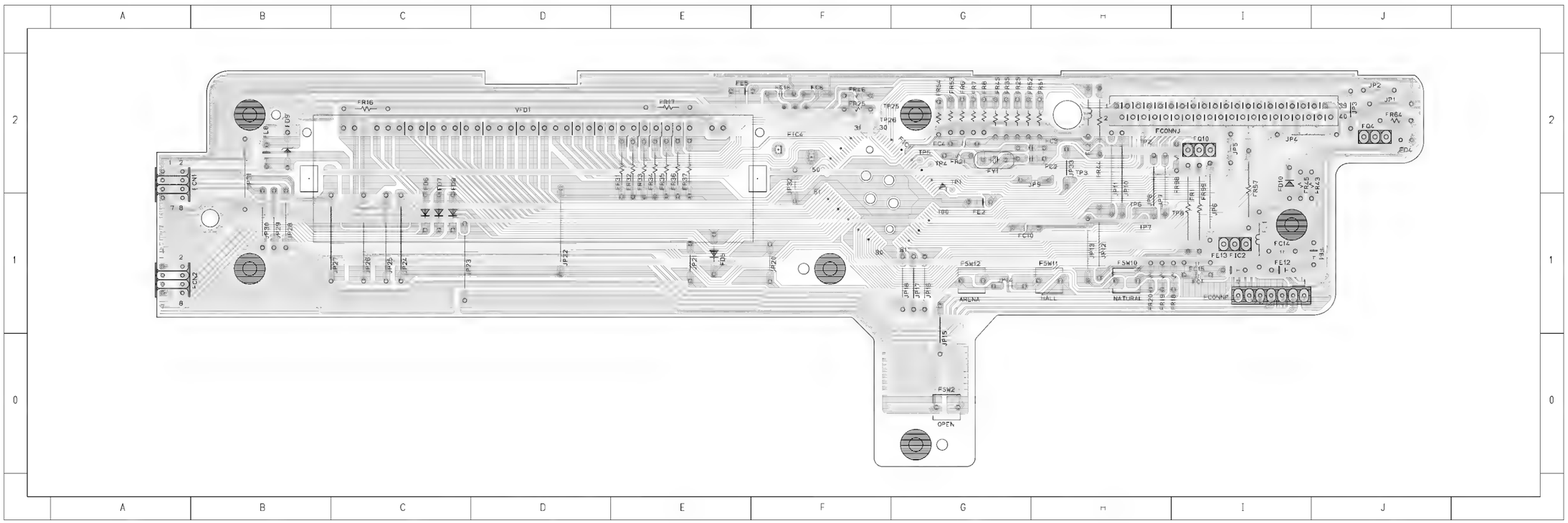
11-3 S.M.P.S.



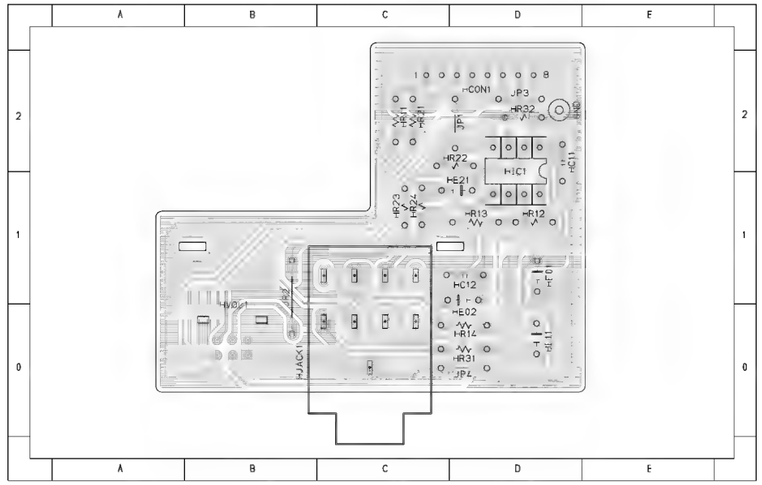
11-4 AMP



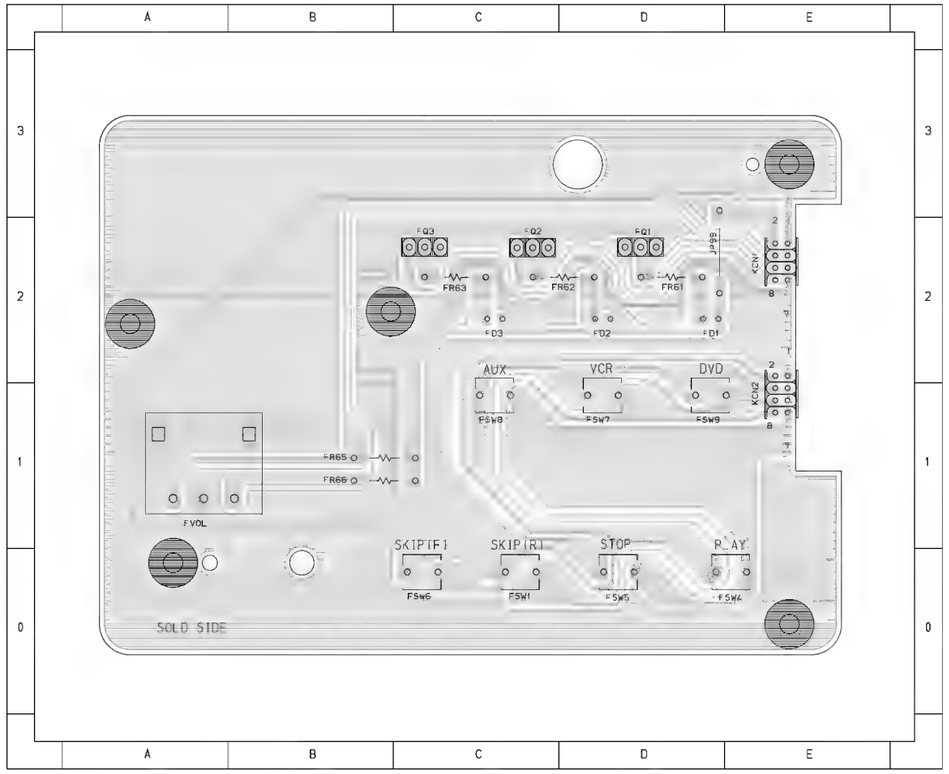
11-5 Front


A
B
C
D
E
F
G
H
I
J
2
1
0
VFD1
CN1
CN2
FCONNJ
FCONNR
AHENA
HALL
NATURAL
OPEN
FSW12
FSW11
FSW10
FSW2

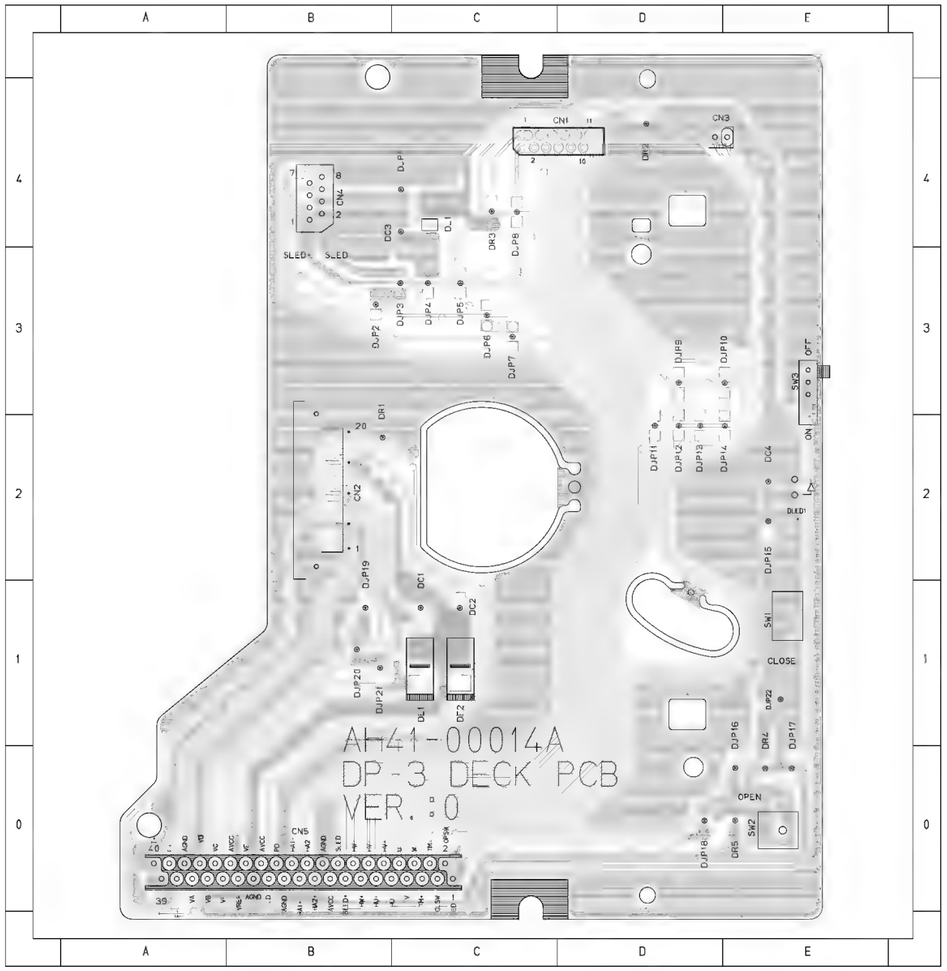
11-6 Headphone



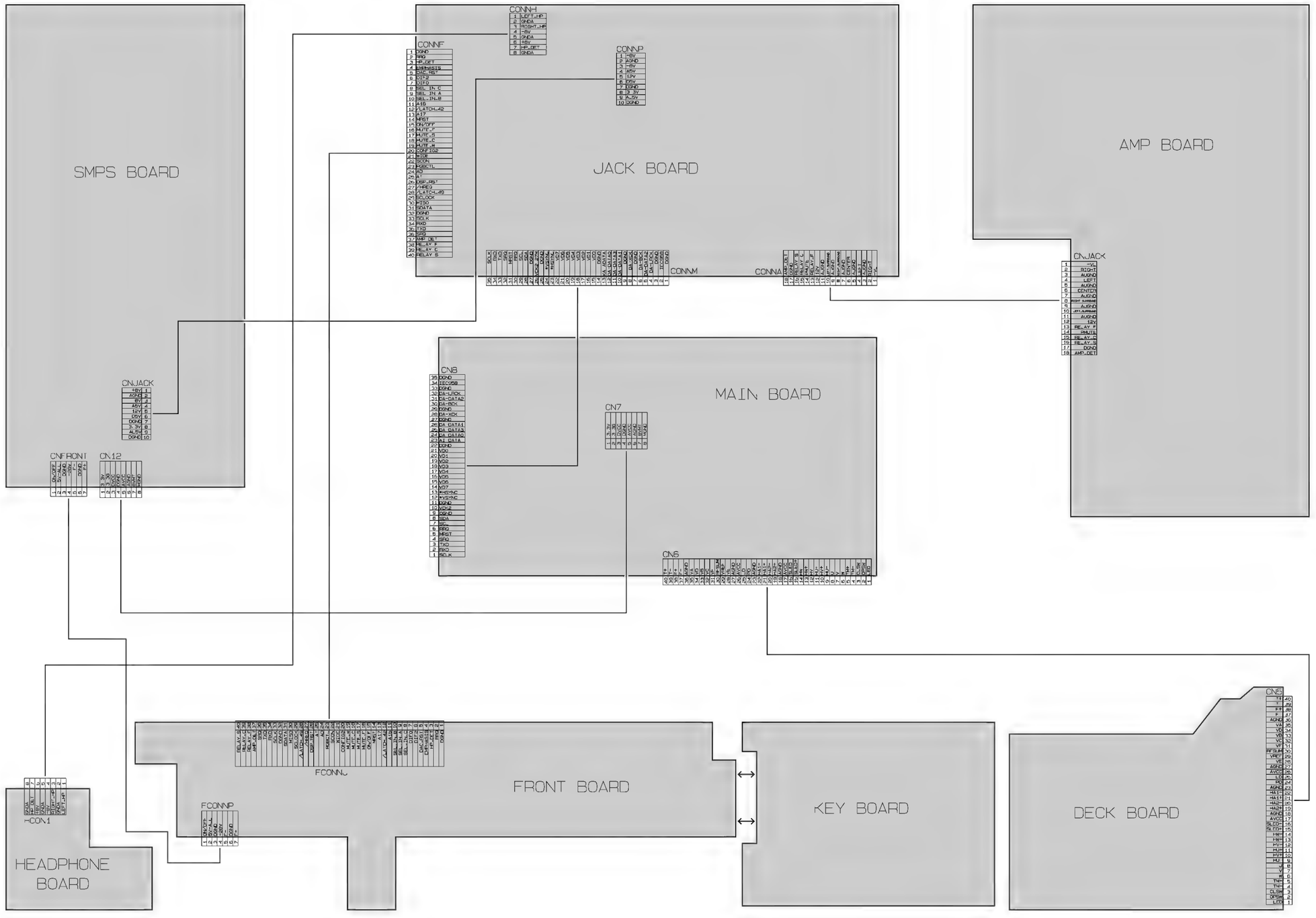
11-7 Key



11-8 Deck



12. Wiring Diagram



MEMO

13. Schematic Diagrams

13-1 S.M.P.S. ---------- 13-2

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13-12 Interface ---------- 13-13

13-13 Amp ---------- 13-14

13-14 Headphone ---------- 13-15

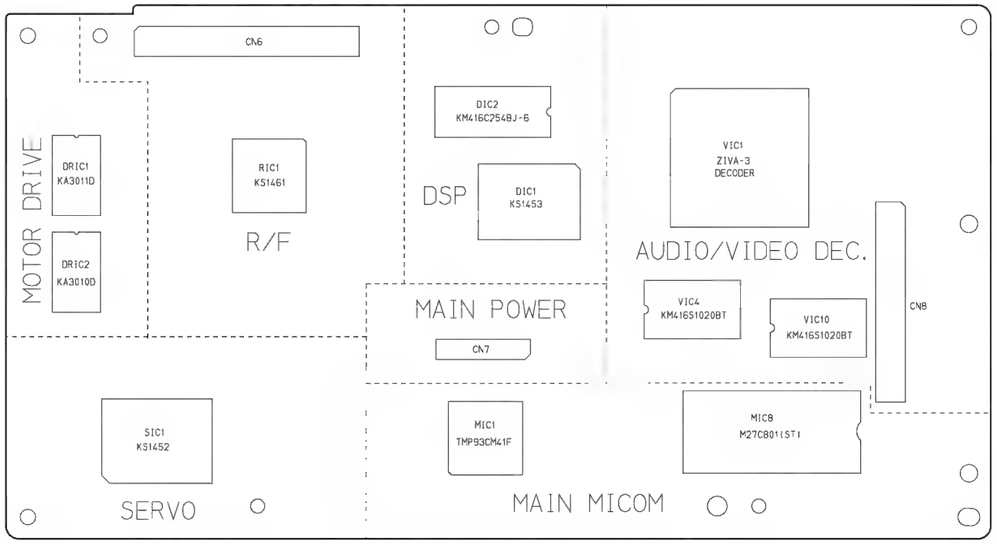
13-15 Front ---------- 13-16

13-16 Key ---------- 13-17

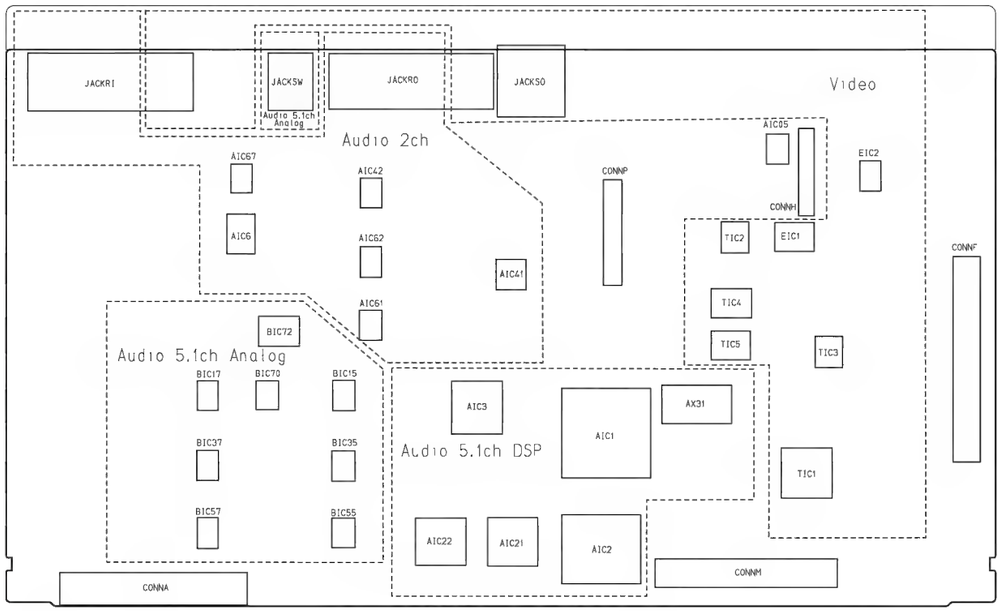
13-17 Deck ---------- 13-18

13-18 Remote Control ---------- 13-19

Block Identification of PCB

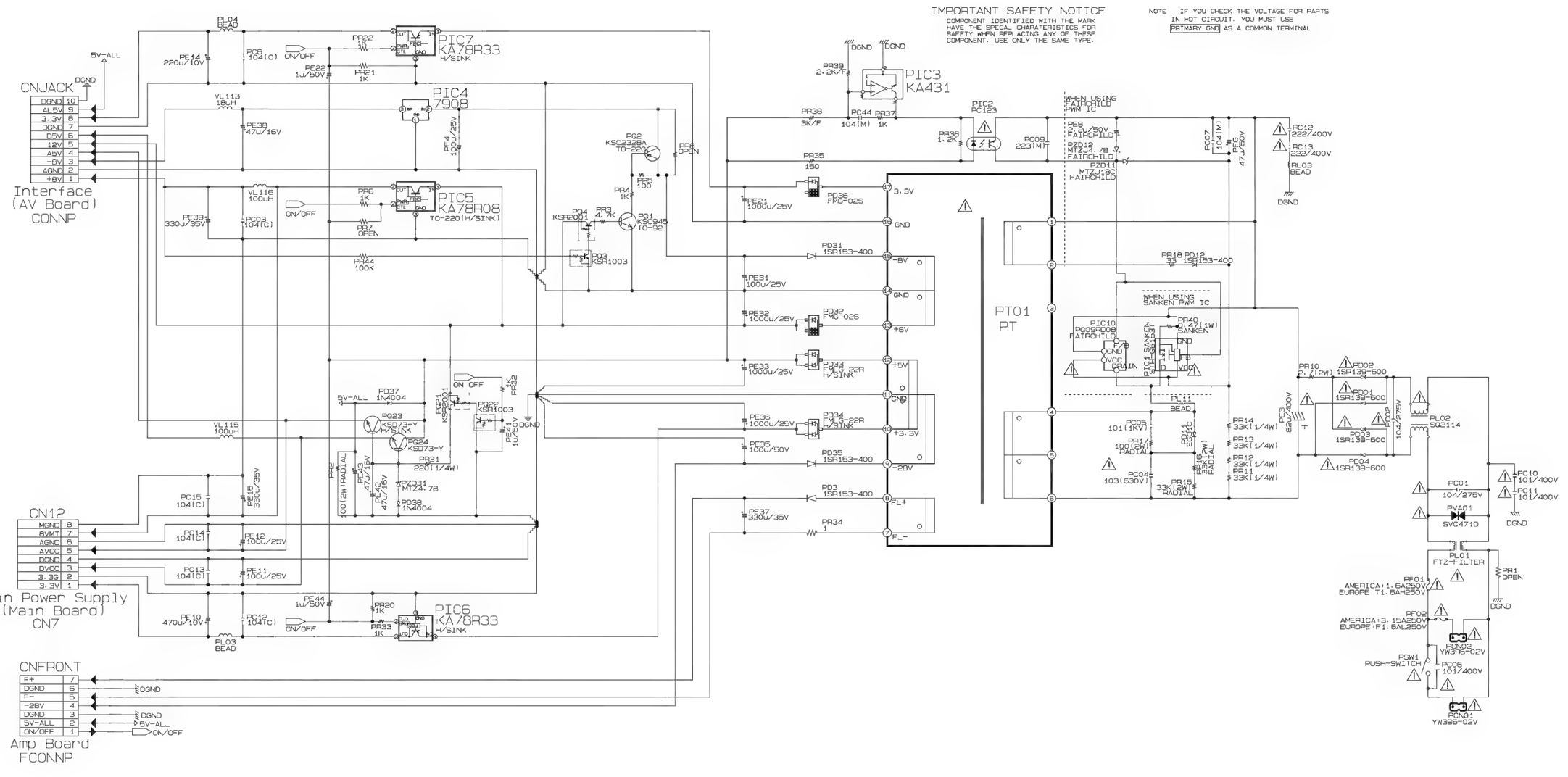


Main PCB (Component Side)

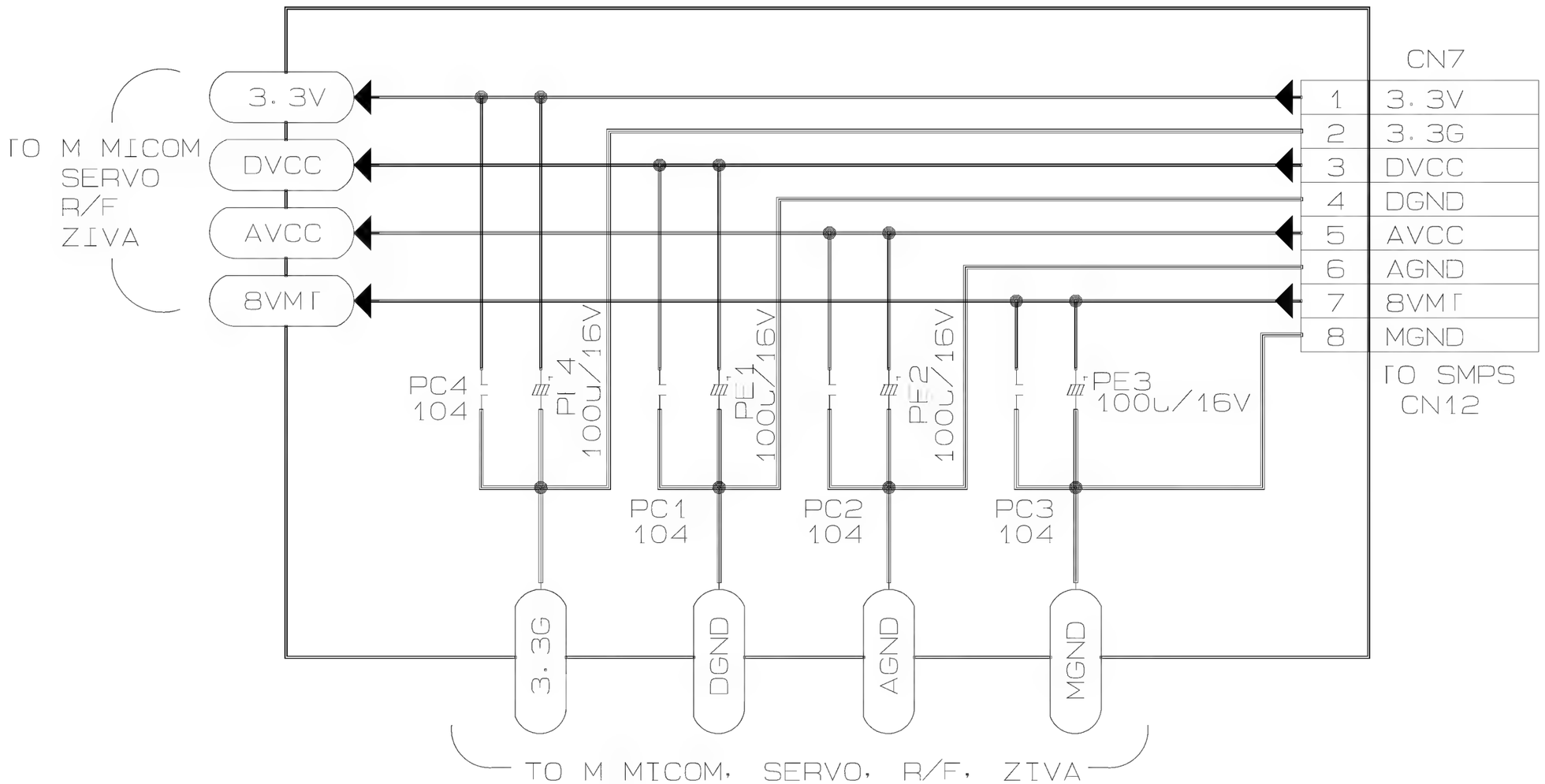


Jack PCB (Component Side)

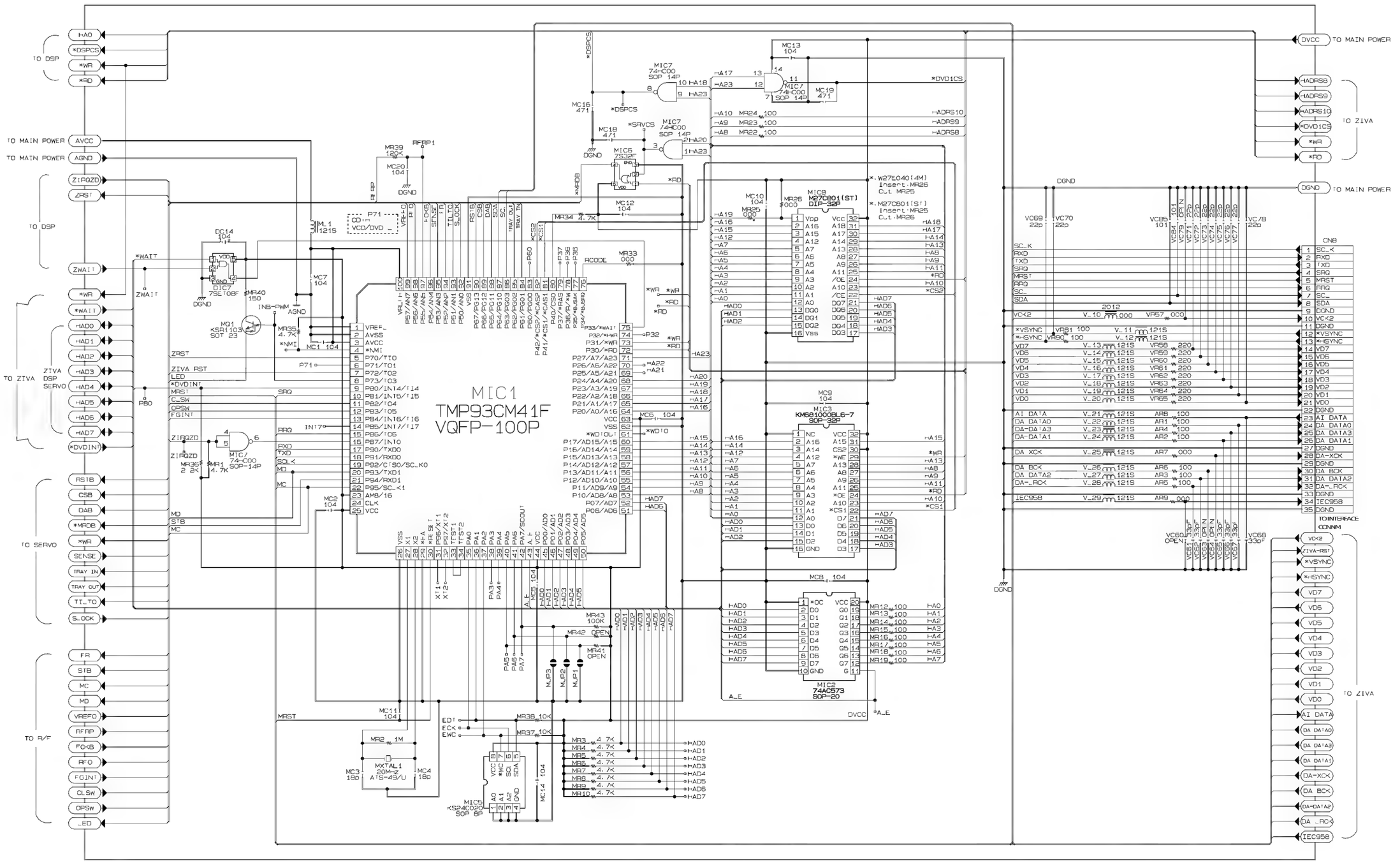
13-1 S.M.P.S.


IMPORTANT SAFETY NOTICE
COMPONENT IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARATERISTICS FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENT. USE ONLY THE SAME TYPE.
NOTE IF YOU CHECK THE VOLTAGE FOR PARTS IN HOT CIRCUIT. YOU MUST USE PRIMARY GND AS A COMMON TERMINAL
CNJACK
DGND 10
AL5V 9
3.3V 8
DGND 7
D5V 6
12V 5
A5V 4
-6V 3
AGND 2
+8V 1
Interface (AV Board) CONNP
5V-ALL
PIC7 KA78R33 H/SINK
PIC4 7908
PIC5 KA78R08 TO-220(H/SINK)
PIC6 KA/8R33 H/SINK
PIC3 KA431
PIC2 PC123
WHEN USING FAIRCHILD PWM IC
WHEN USING SANKEN PWM IC
PIC10 PQ09RD08 FAIRCHILD
PT01 PT
CN12
MGND 8
BVMT 7
AGND 6
AVCC 5
DGND 4
DVCC 3
3.3S 2
3.3V 1
Main Power Supply (Main Board) CN7
CNFRONT
F+ 7
DGND 6
F- 5
-28V 4
DGND 3
5V-ALL 2
ON/OFF 1
Amp Board FCONNP
PL01 FTZ-FILTER
PF01 AMERICA:1.6A250V EUROPE T1.6AH250V
PF02 AMERICA:3.15A250V EUROPE:F1.6AL250V
PCN02 YW396-02V
PCN01 YW396-02V
PSW1 PUSH-SWITCH
PVA01 SVC471D
PL02 SD2114
3.3V
GND
-8V
+8V
+5V
-28V
FL+
F-

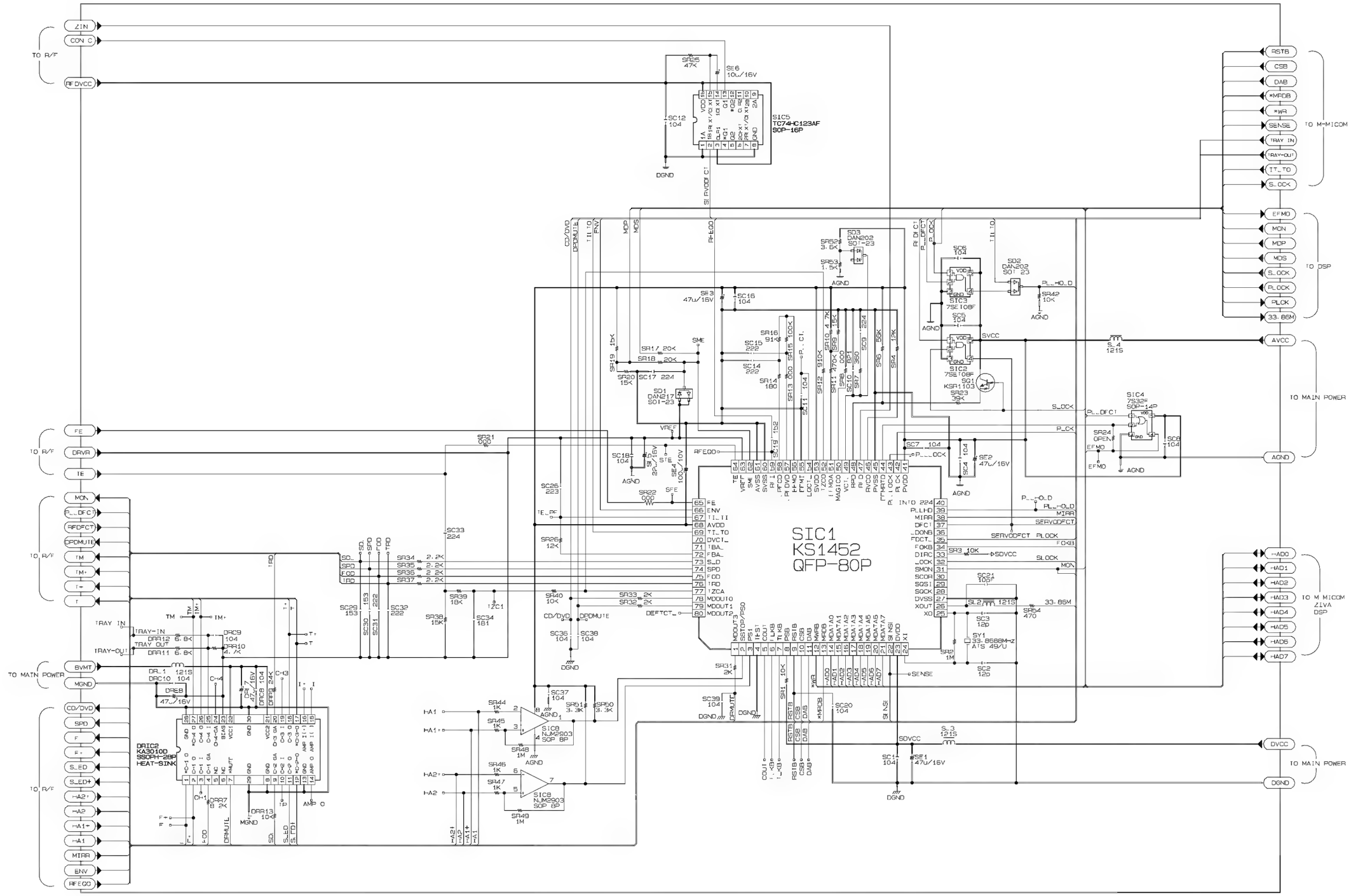
13-2 Main Power Supply



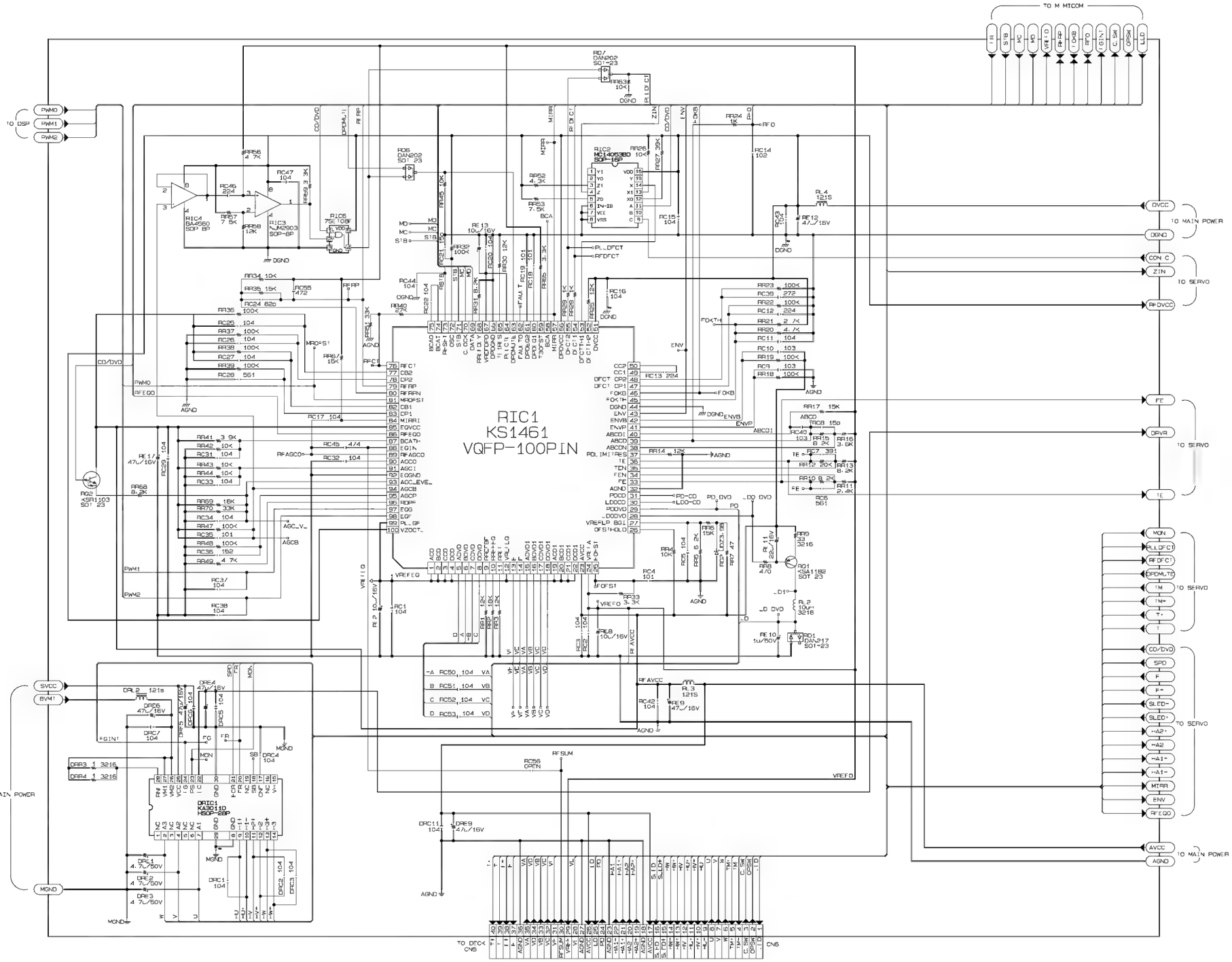
13-3 Main Micom



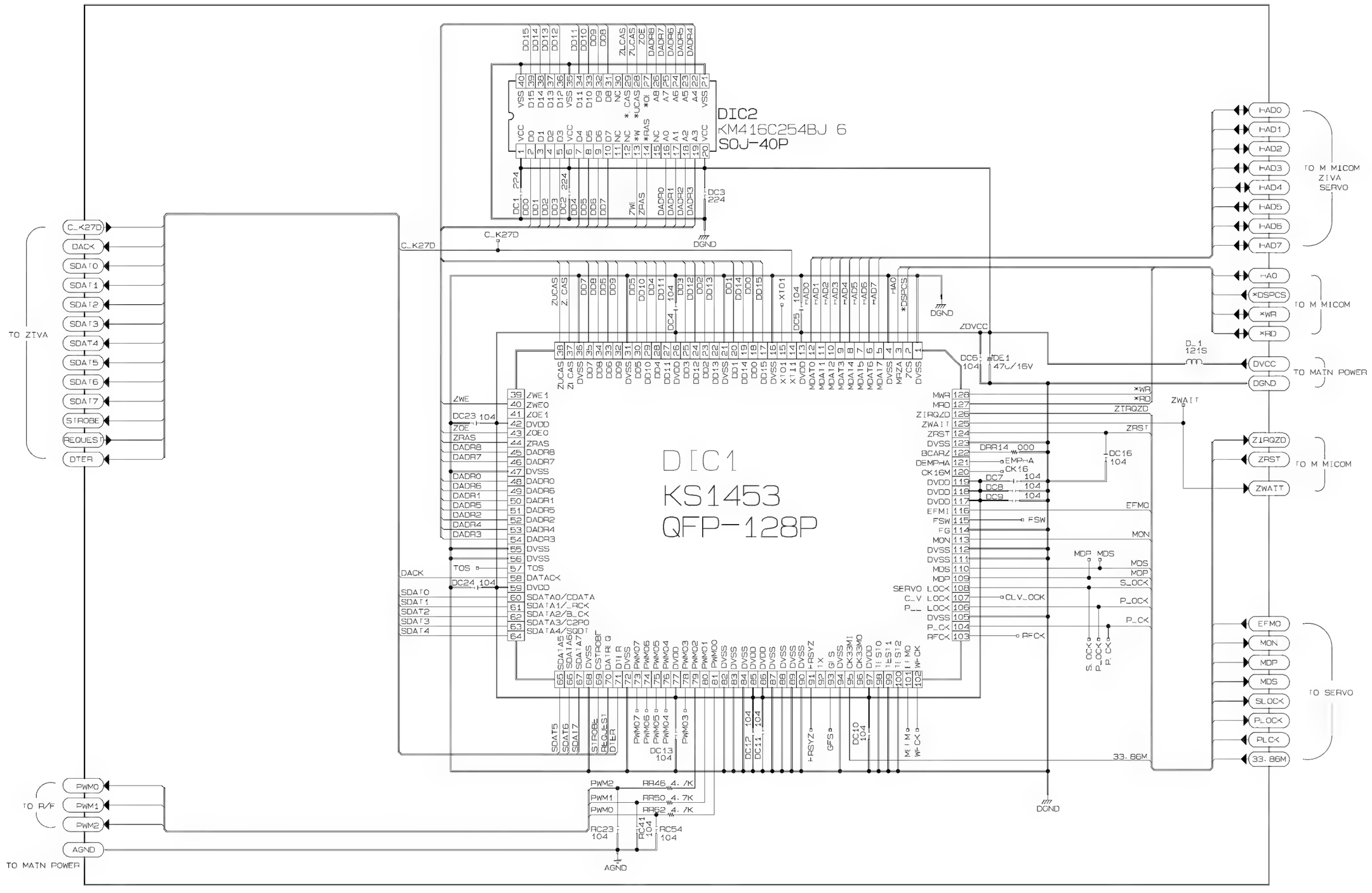
13-4 Servo


SIC1
KS1452
QFP-80P
SIC5
TC74HC123AF
SOP-16P
SIC8
NJM2903
SOP 8P
DRIC2
KA3010D
SSOPH-28P
HEAT-SINK
SIC2
7SE108F
SIC3
7SE108F
SIC4
7S32F
SOP-14P
SY1
33.8688M-Z
ATS 49/U
SD1
DAN217
SOT-23
SD2
DAN202
SOT-23
SD3
DAN202
SOT-23
KSR1103
TO R/F
TO M-MICOM
TO DSP
TO MAIN POWER
TO M MICOM
ZIVA
DSP
TO MAIN POWER
TO R/F
TO R/F
TO MAIN POWER
ZIN
CON C
RFDVCC
FE
DRVR
TE
MON
P_DFCT
RFDFCT
DPDMUTE
TM
TM+
T+
T-
TRAY IN
TRAY-IN
TRAY OUT
TRAY-OUT
BVMT
MGND
CD/DVD
SPD
F
F+
S_ED
S_ED+
+A2-
+A2
+A1+
+A1
MIRR
ENV
RFEQO
RSTB
CSB
DAB
*MPDB
*WR
SENSE
TRAY IN
TRAY-OUT
TT_TO
S_OCK
EFMO
MON
MDP
MDS
S_OCK
PLOCK
PLCK
33.86M
AVCC
+AD0
+AD1
+AD2
+AD3
+AD4
+AD5
+AD6
+AD7
DVCC
DGND
AGND
SVCC
SDVCC
DGND
SERVODFCT
SLOCK
MON
SENSE
PLL_OLD
PLL_DFCT
P_OCK
P_DCK
SERVODFCT PLOCK
SDVCC
SERVODFCT
PLL_OLD
MIRR
FOKB
SDVCC
SLOCK
MON
SENSE
SVCC
AGND
DGND
AVCC
DVCC
DGND
AGND
SVCC
SDVCC
DGND
SR25 47K
SE6 10u/16V
SC12 104
SE5 47u/16V
SC16 104
SR3 47u/16V
SR5 3.3K
SR6 1.5K
SR42 10K
SC5 104
SC6 104
SR23 39K
SC7 104
SC4 104
SE2 47u/15V
SR24 OPEN
SC8 104
SC21 105
SR64 470
SC3 12p
SC2 12p
SR2 1M
SR1 10K
SR3 10K
SC20 104
SC11 104
SE1 47u/15V
SC37 104
SC38 104
SC39 104
SR51 3.3K
SR50 3.3K
SR44 1K
SR45 1K
SR46 1K
SR47 1K
SR48 1M
SR49 1M
SR21 0Ω
SR22 0Ω
SC18 104
SE4 100u/10V
SR26 12K
SC33 224
SR34 2.2K
SR35 2.2K
SR36 2.2K
SR37 2.2K
SC29 153
SC30 153
SC31 222
SC32 222
SR39 18K
SC34 181
SR38 15K
SR40 10K
SR33 2K
SR32 2K
SR31 2K
SC36 104
SR27 47u/16V
SR28 24K
SR29 47u/16V
SR30 24K
SR12 910K
SR11 470K
SR10 4.7K
SR9 15K
SR8 224
SR7 224
SR6 56K
SR4 12K
SR16 91K
SC15 222
SC14 222
SR14 180
SR13 0Ω
SR15 100K
SR19 15K
SR20 15K
SR18 20K
SR17 20K
SME
SC17 224
SC10 000
SC9 BP1
SC19 152
SC11 104
VREF
SR22 0Ω
SFE
SR43 0Ω
SR41 0Ω
SR26 223
TE_DF
SC26 223
SR26 12K
SC33 224
SR34 2.2K
SR35 2.2K
SR36 2.2K
SR37 2.2K
SC29 153
SC30 153
SC31 222
SC32 222
SR39 18K
SC34 181
SR38 15K
SR40 10K
SR33 2K
SR32 2K
SR31 2K
SC36 104
SC38 104
SC37 104
SR51 3.3K
SR50 3.3K
SC39 104
SR1 10K
SR3 10K
SC20 104
SC11 104
SE1 47u/15V
SC21 105
SR64 470
SC3 12p
SC2 12p
SR2 1M
SR24 OPEN
SC8 104
SC7 104
SC4 104
SE2 47u/15V
SR42 10K
SC5 104
SC6 104
SR23 39K
SR5 3.3K
SR6 1.5K
SR25 47K
SE6 10u/16V
SC12 104
SE5 47u/16V
SC16 104
SR3 47u/16V
SR5 3.3K
SR6 1.5K
SR42 10K
SC5 104
SC6 104
SR23 39K
SC7 104
SC4 104
SE2 47u/15V
SR24 OPEN
SC8 104
SC21 105
SR64 470
SC3 12p
SC2 12p
SR2 1M
SR1 10K
SR3 10K
SC20 104
SC11 104
SE1 47u/15V
SC37 104
SC38 104
SC39 104
SR51 3.3K
SR50 3.3K
SR44 1K
SR45 1K
SR46 1K
SR47 1K
SR48 1M
SR49 1M
SR21 0Ω
SR22 0Ω
SC18 104
SE4 100u/10V
SR26 12K
SC33 224
SR34 2.2K
SR35 2.2K
SR36 2.2K
SR37 2.2K
SC29 153
SC30 153
SC31 222
SC32 222
SR39 18K
SC34 181
SR38 15K
SR40 10K
SR33 2K
SR32 2K
SR31 2K
SC36 104
SC38 104
SR27 47u/16V
SR28 24K
SR29 47u/16V
SR30 24K
SR12 910K
SR11 470K
SR10 4.7K
SR9 15K
SR8 224
SR7 224
SR6 56K
SR4 12K
SR16 91K
SC15 222
SC14 222
SR14 180
SR13 0Ω
SR15 100K
SR19 15K
SR20 15K
SR18 20K
SR17 20K
SME
SC17 224
SC10 000
SC9 BP1
SC19 152
SC11 104
VREF
SR22 0Ω
SFE
SR43 0Ω
SR41 0Ω
SR26 223
TE_DF
SC26 223

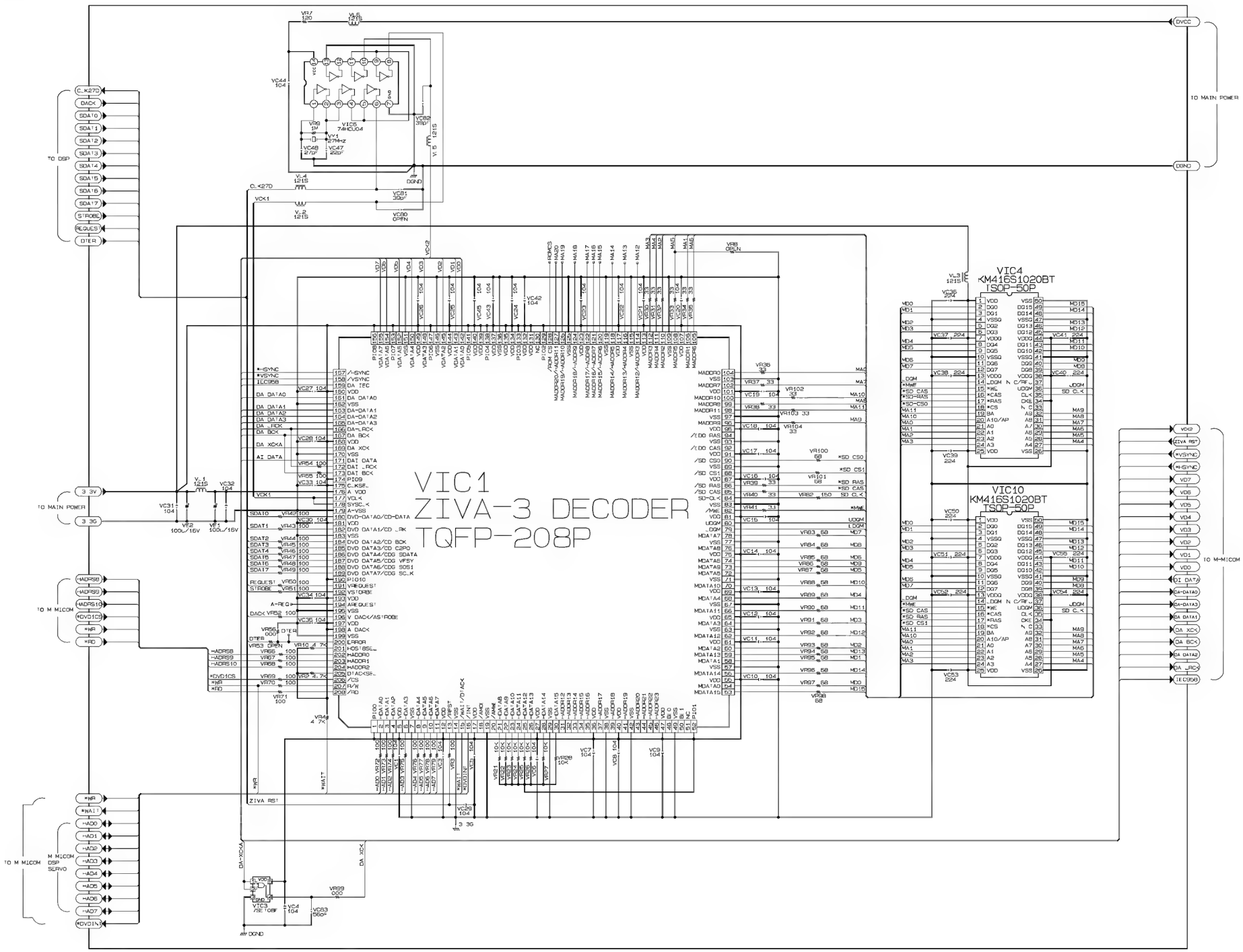
13-5 RF


RIC1
KS1461
VQFP-100PIN
TO M MICOM
TO MAIN POWER
TO SERVO
TO SERVO
TO SERVO
TO MAIN POWER
TO MAIN POWER
TO DECK CN5
CN6

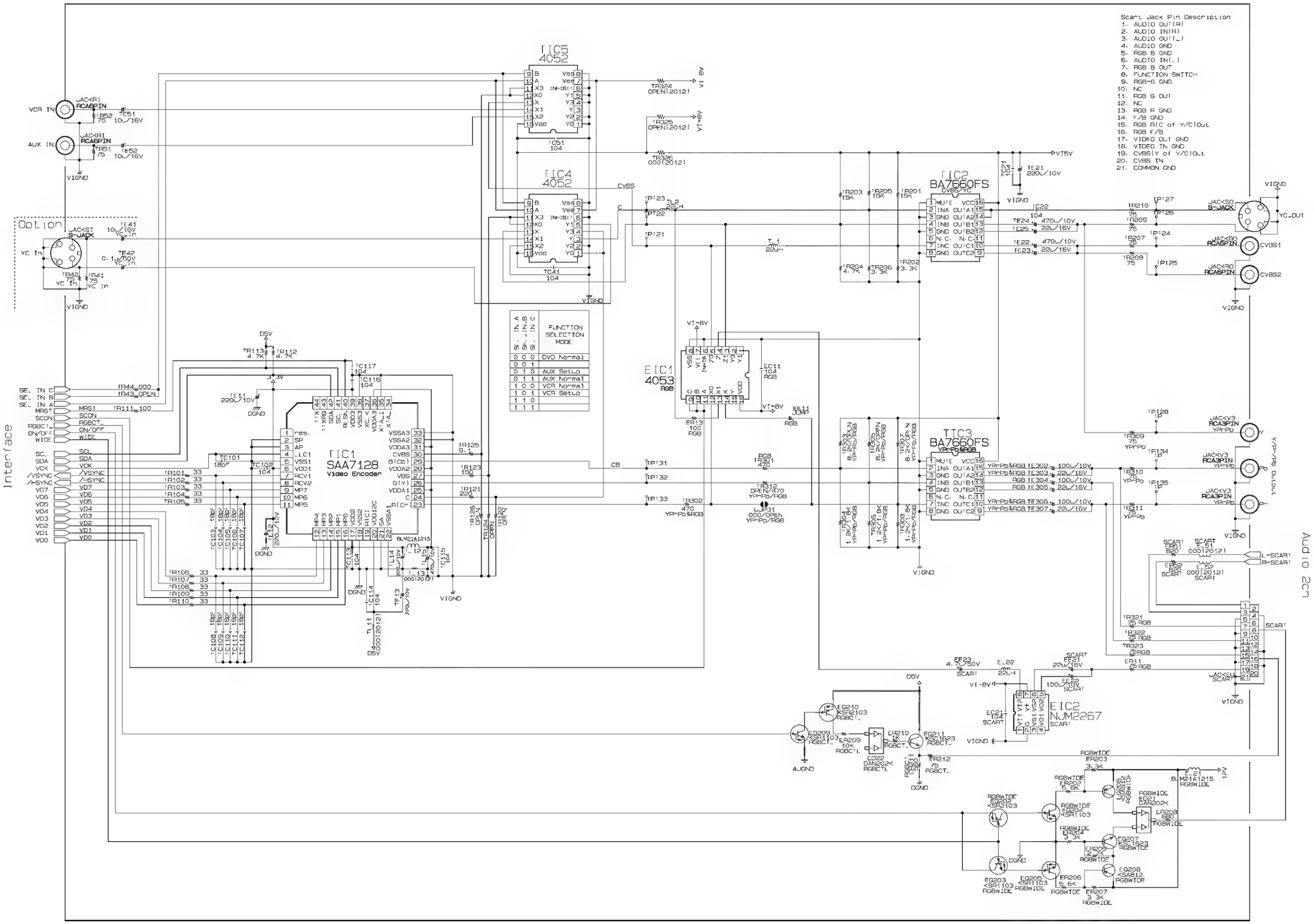
13-6 DSP


DIC2
KM416C254BJ 6
SOJ-40P
DIC1
KS1453
QFP-128P
C_K27D
DACK
SDAT0
SDAT1
SDAT2
SDAT3
SDAT4
SDAT5
SDAT6
SDAT7
STROBE
REQUEST
DTER
TO ZIVA
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
TO M MICOM ZIVA SERVO
HA0
*DSPCS
*WR
*RD
TO M MICOM
DVCC
DGND
TO MAIN POWER
ZIRQZD
ZRST
ZWAIT
TO M MICOM
EFMO
MON
MDP
MDS
SLOCK
P_OCK
PLCK
33.86M
TO SERVO
DGND
ZDVCC
#DE1 47u/16V
D_1 121S
ZWE
DC23 104
ZOE
ZRAS
DADR8
DADR7
DADR0
DADR6
DADR1
DADR5
DADR2
DADR4
DADR3
TOS
DC24 104
SDAT0
SDAT1
SDAT2
SDAT3
SDAT4
DACK
PWM0
PWM1
PWM2
AGND
TO R/F
TO MAIN POWER
RR46 4.7K
RR50 4.7K
RR62 4.7K
RC23 104
RC41 104
RC54 104
DC13 104
DC16 104
DC7 104
DC8 104
DC9 104
DRR14 000
CK16 104
EMP-A
FSW
CLV_OCK
RFCK
MWR
MRD
ZIRQZD
ZWAIT
ZRST
EFMI
FSW
FG
MON
MDS
MDP
SERVO LOCK
C_V LOCK
P_LOCK
P_CK
RFCK
S_OCK
P_OCK
P_CK

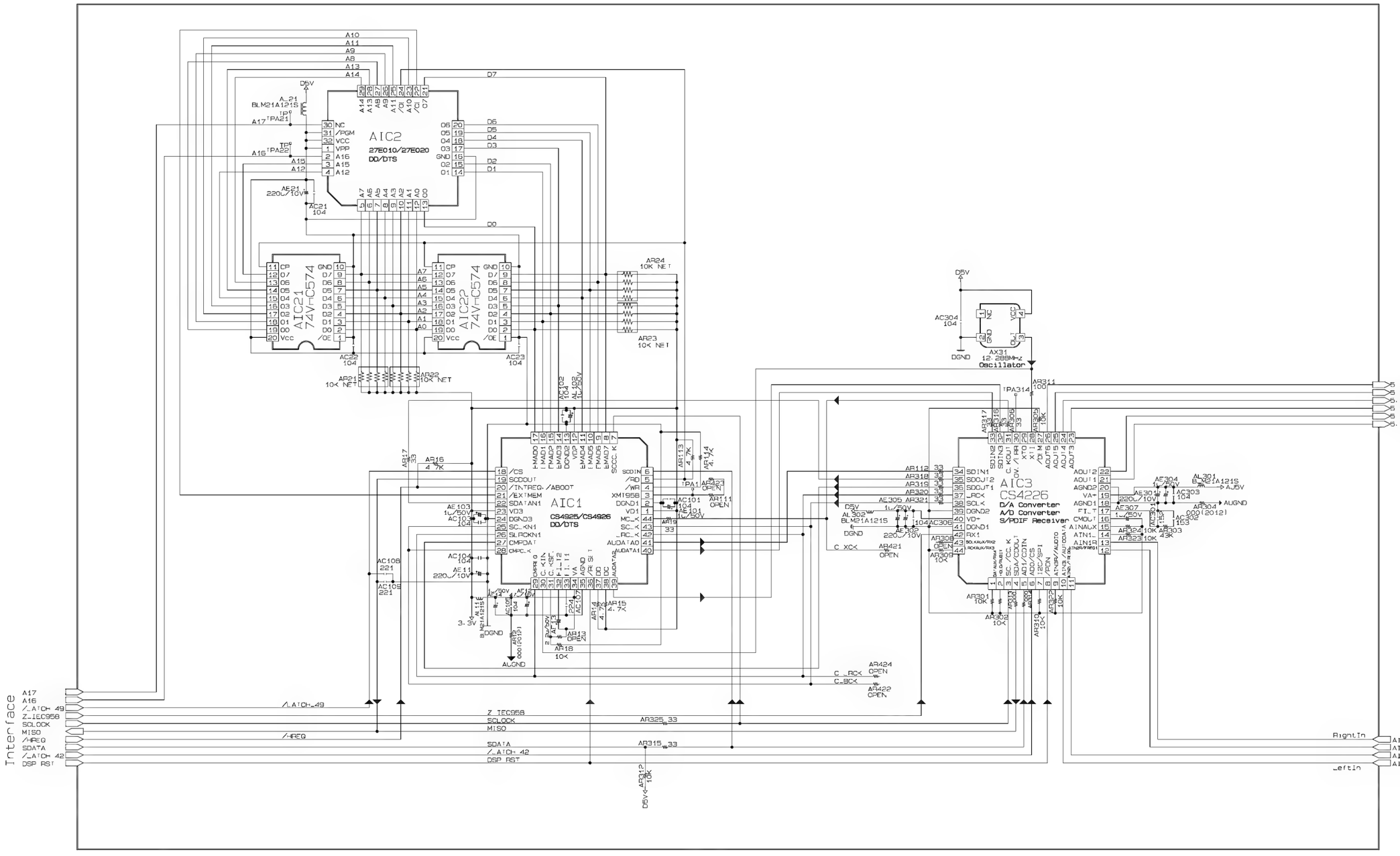
13-7 A/V Decoder



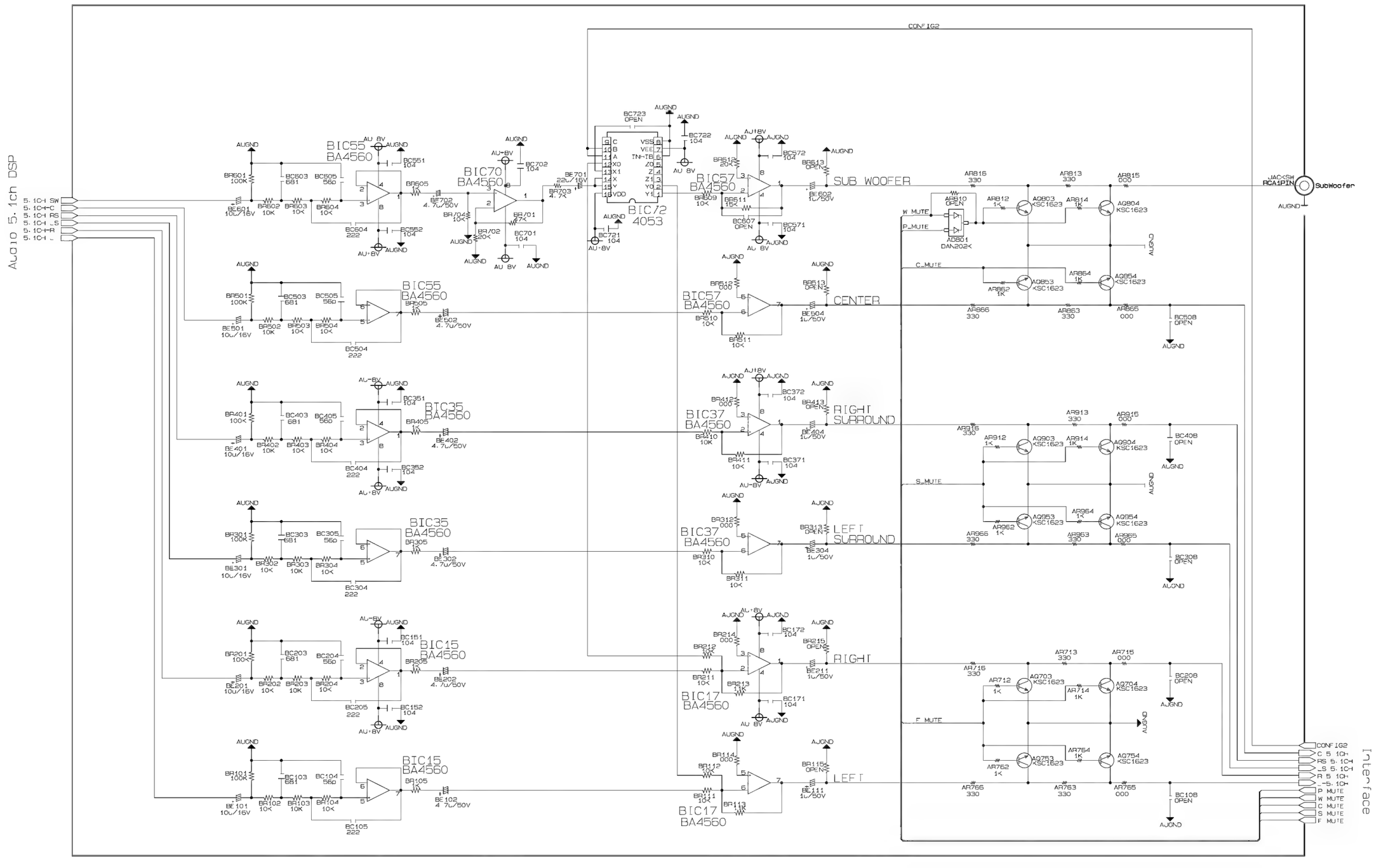
13-8 Video


Scart Jack Pin Description
1. AUDIO OUT(R)
2. AUDIO IN(R)
3. AUDIO OUT(_)
4. AUDIO GND
5. RGB B GND
6. AUDIO IN(_)
7. RGB B OUT
8. FUNCTION SWITCH
9. RGB-G GND
10. NC
11. RGB G OUT
12. NC
13. RGB R GND
14. F/B GND
15. RGB R/C of Y/C Out
16. RGB F/B
17. VIDEO OUT GND
18. VIDEO IN GND
19. CVBS(Y of Y/C)Out
20. CVBS IN
21. COMMON GND
IIC5 4052
IIC4 4052
IIC1 SAA7128 Video Encoder
IIC2 BA7660FS CVBS/YC
IIC3 BA7660FS YPbPb/RGB
EIC1 4053 RGB
EIC2 NJM2267
Option
VCR IN
AUX IN
YC In
SE_ IN C
SE_ IN B
SE_ IN A
MRST
SCON
RGBCT_
ON/OFF
WIDE
SCL
SDA
VCK
/VSYNC
/HSYNC
VD7
VD6
VD5
VD4
VD3
VD2
VD1
VD0
CVBS
CB
VIGND
DGND
AUGND
VT+8V
D5V
3.3V
JACK50 S-JACK
JACK80 RCA3PIN
JACK90 RCA3PIN
JACKV3 RCA3PIN
JACK61 SCART
Interface
Audio 2CH

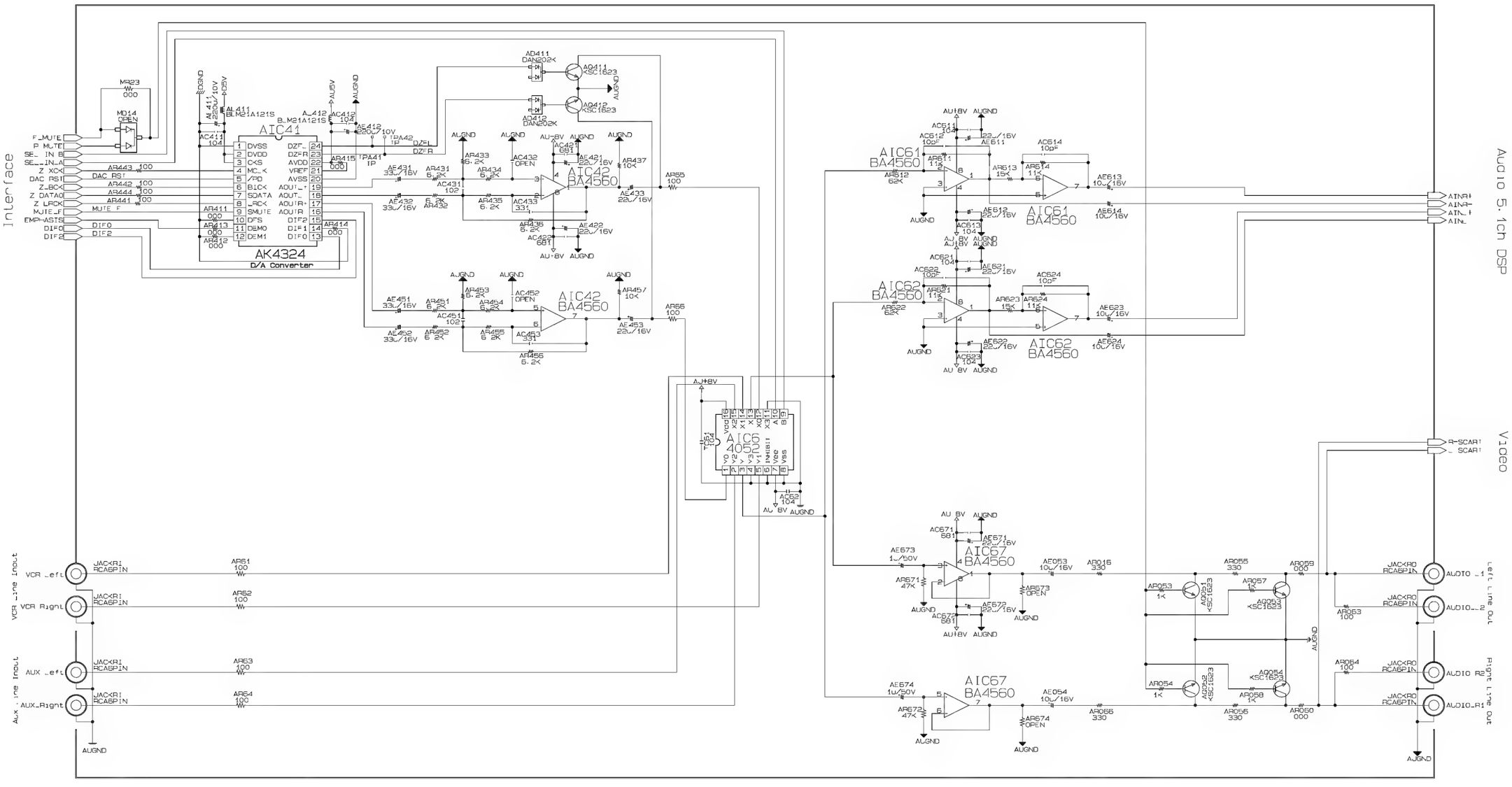
13-9 Audio 5.1 Channel DSP



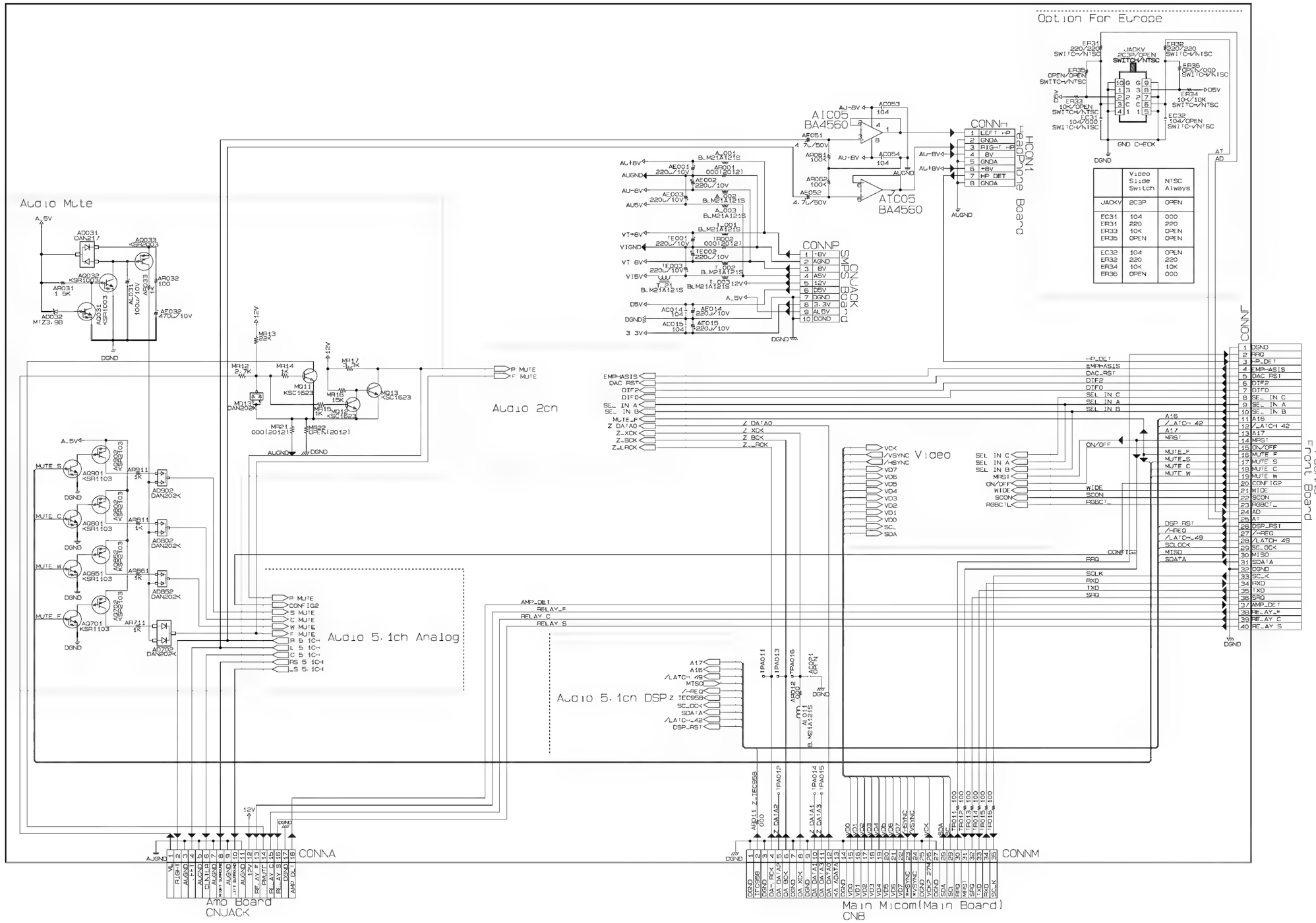
13-10 Audio 5.1 Channel Analog



13-11 Audio 2 Channel

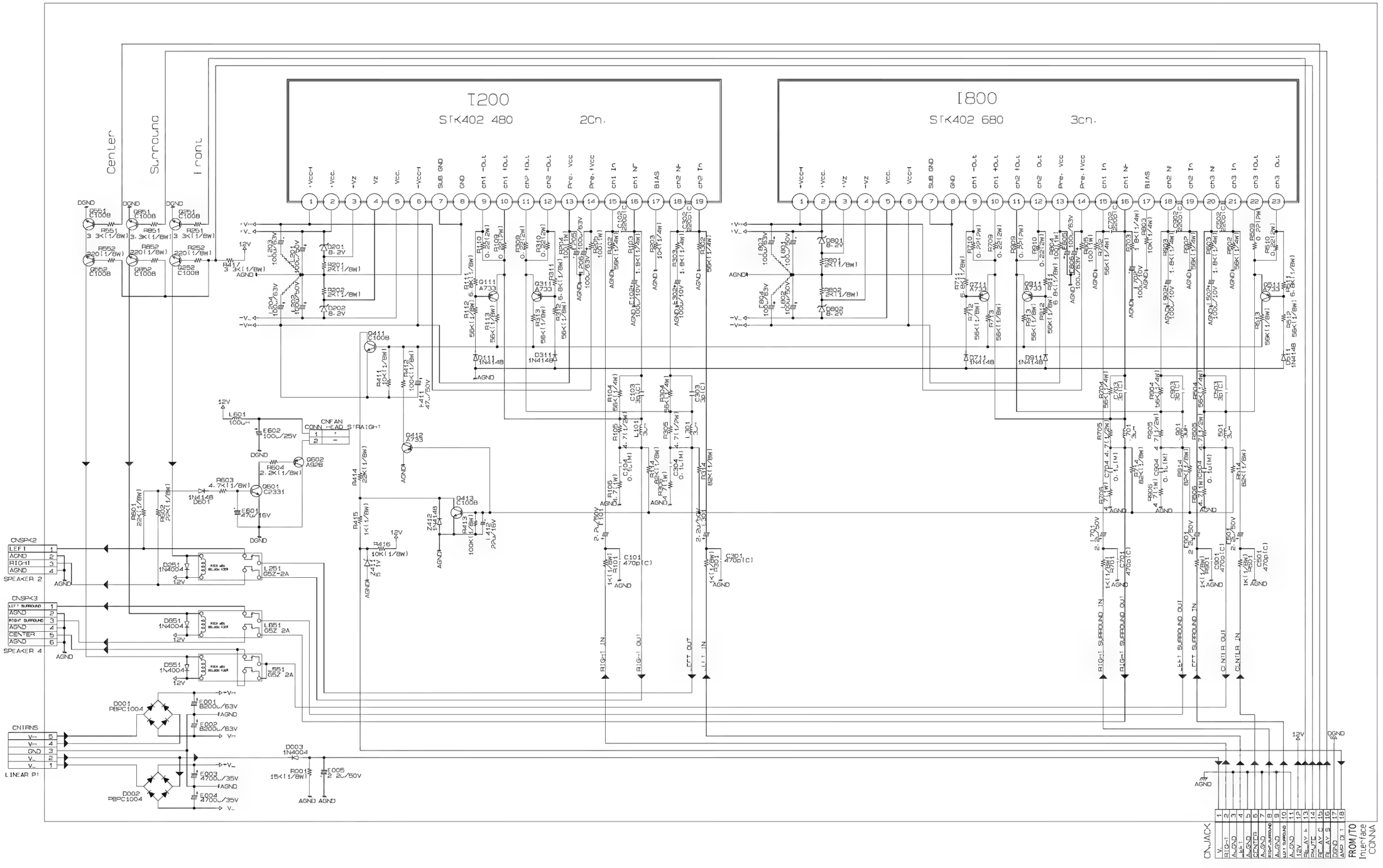


13-12 Interface

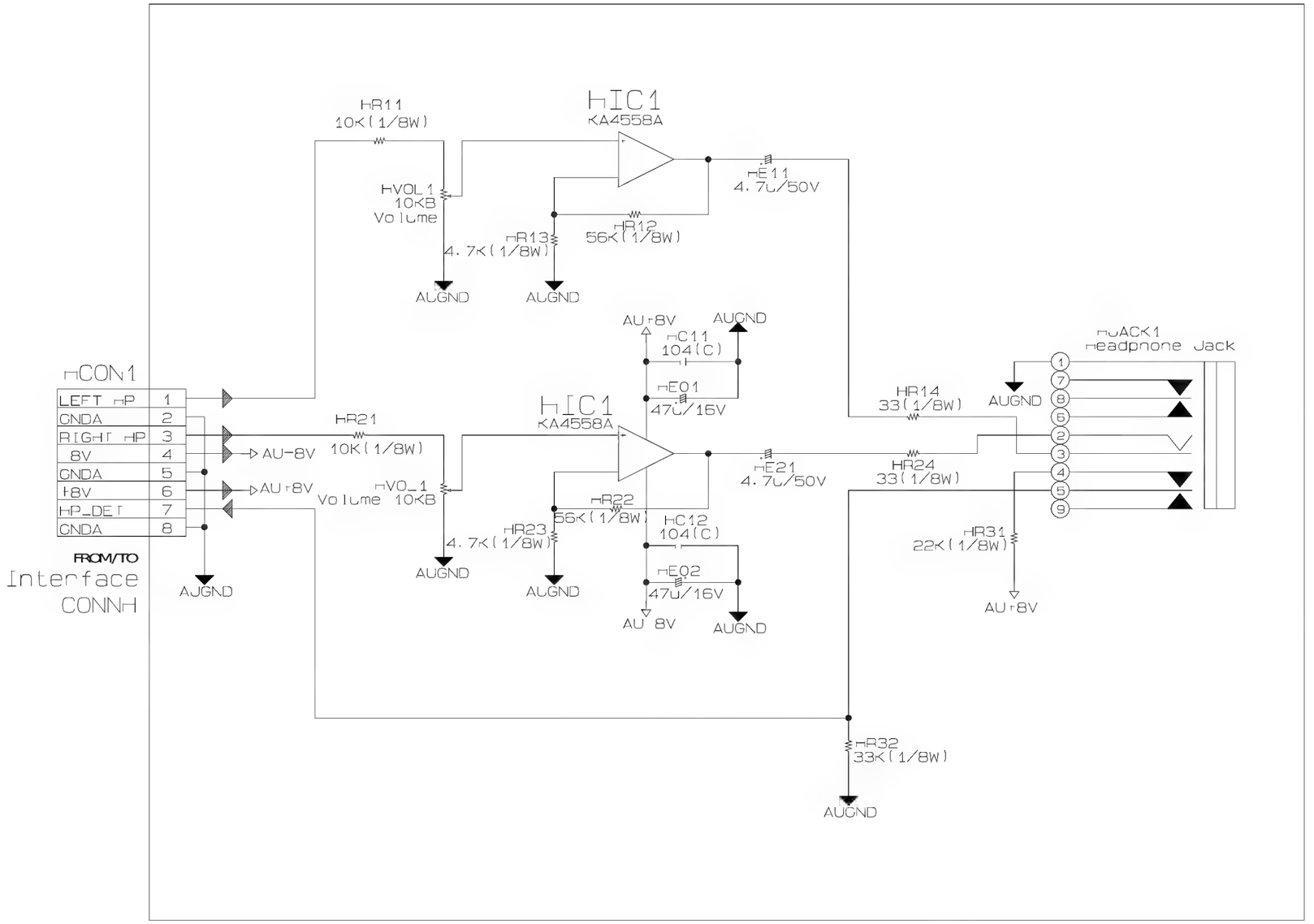


	Video Slide Switch	NTSC Always
JACKV	2CP	OPEN
EC31	104	000
ER31	220	220
ER33	10K	OPEN
ER35	OPEN	OPEN
EC32	104	OPEN
ER32	220	220
ER34	10K	10K
ER36	OPEN	000

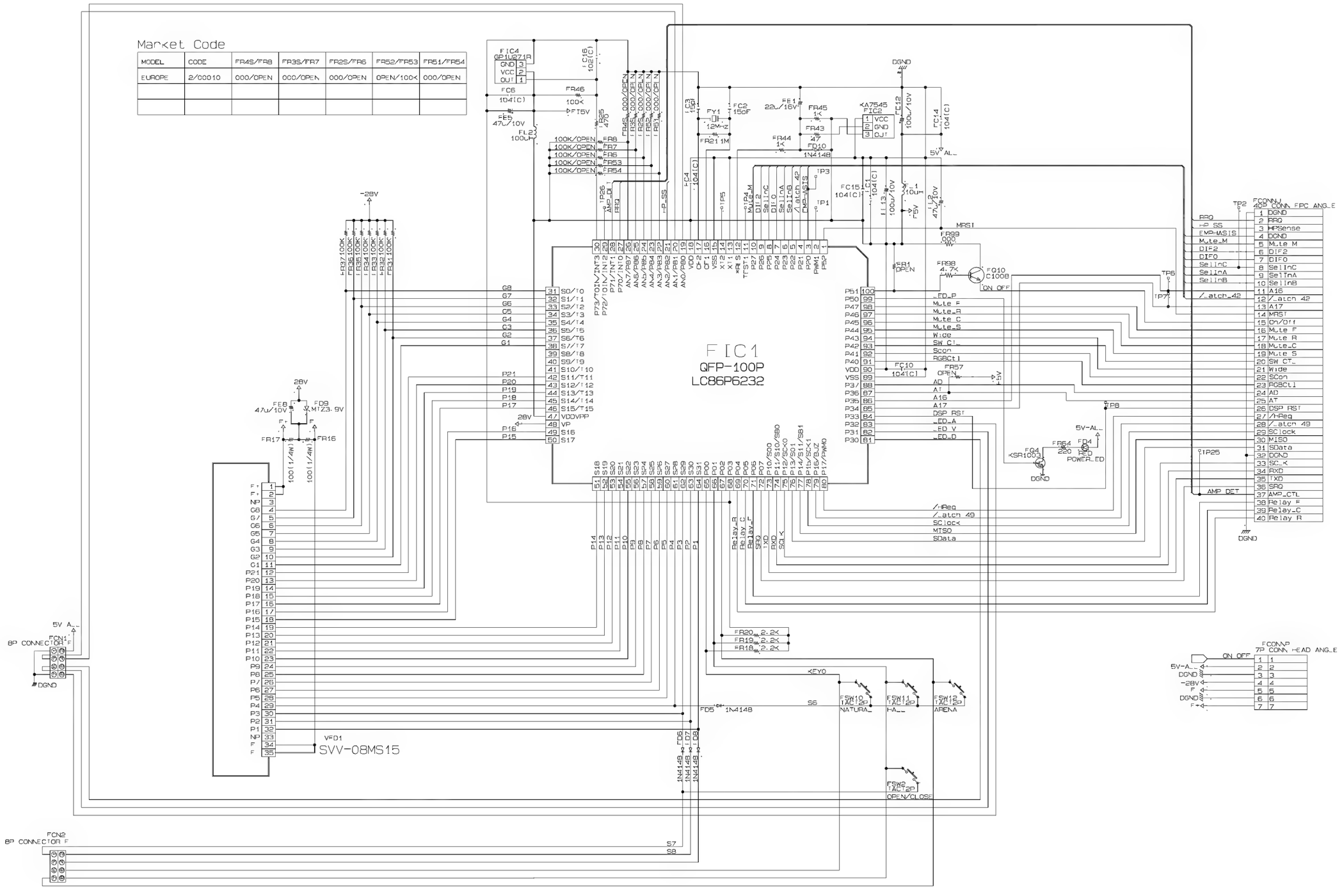
13-13 Amp


Center
Surround
Front
T200
STK402 480 2Ch.
I800
STK402 680 3ch.
CNSPK2
SPEAKER 2
CNSPK3
SPEAKER 4
CNTRNS
LINEAR P1
CNJACK
FROM/TO Interface CONNA

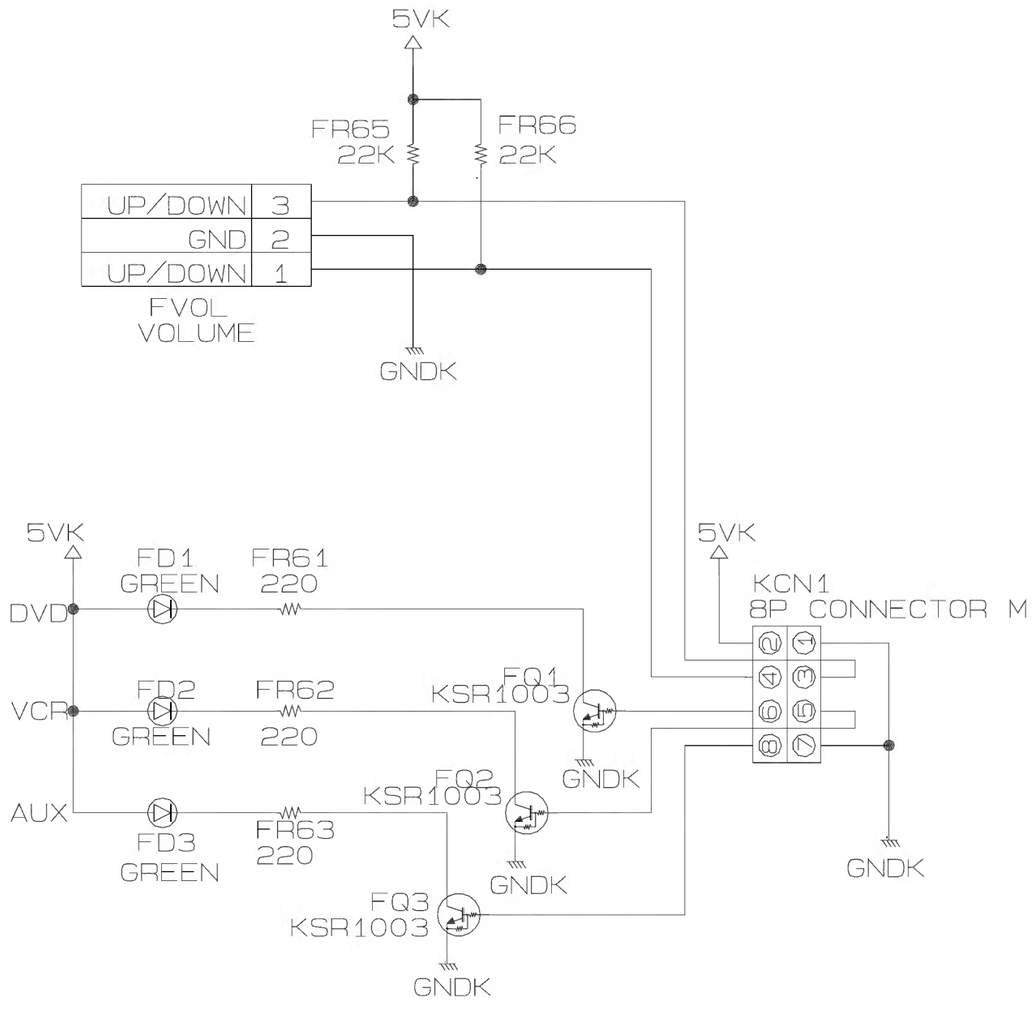
13-14 Headphone

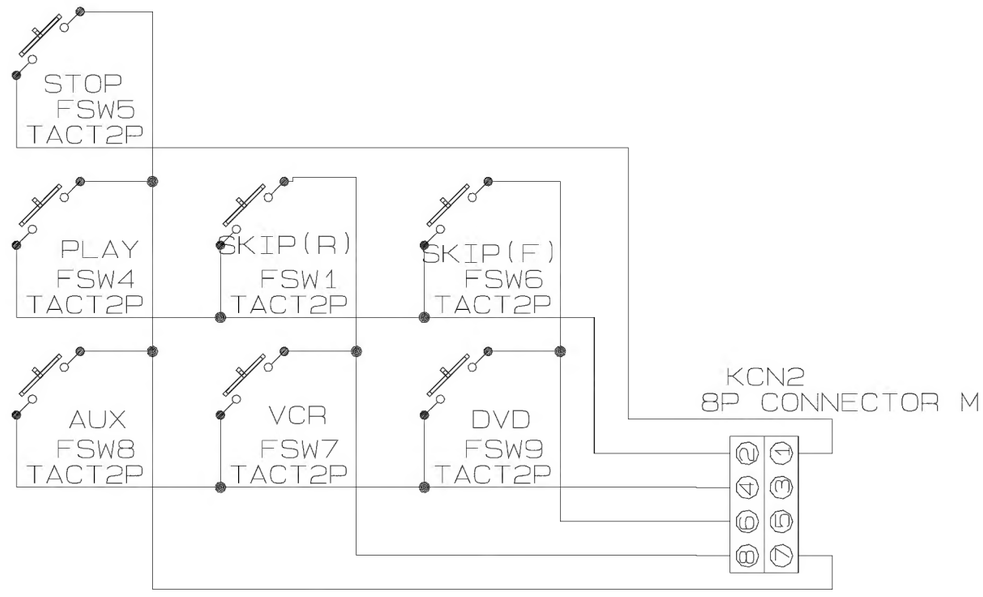


13-15 Front

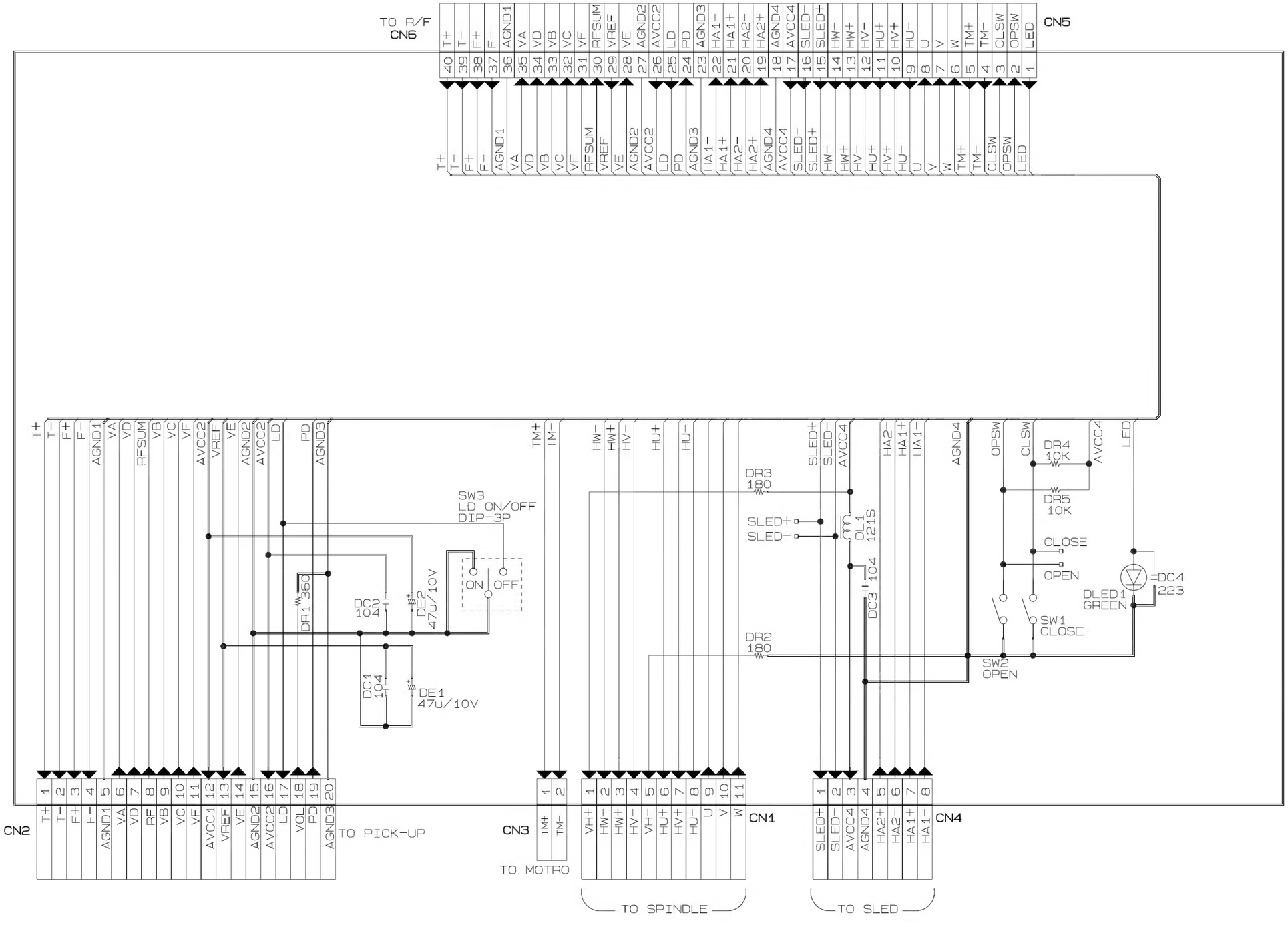

Market Code
MODEL | CODE | FR48/FR8 | FR38/FR7 | FR28/FR6 | FR52/FR53 | FR51/FR54
EUROPE | 2/00010 | 000/OPEN | 000/OPEN | 000/OPEN | OPEN/100K | 000/OPEN
FIC1
QFP-100P
LC86P6232
VFD1
SVV-08MS15
FCN1
8P CONNECTOR F
FCN2
8P CONNECTOR F
FCONN1
40P CONN. FPC ANGLE
FCONN2
7P CONN. HEAD ANGLE
FSW10 TACT2P NATURAL
FSW11 TACT2P HALL
FSW12 TACT2P ARENA
FSW9 TACT2P OPEN/CLOSE
FD10 1N4148
FD5 1N4148
FD6 1N4148
FD7 1N4148
FD8 1N4148
KA7545 FIC2
KSR1003
POWER_LED
-28V
28V
5V_ALL
5V_A__
DGND
MRST
AMP_DET
ON_OFF

13-16 Key

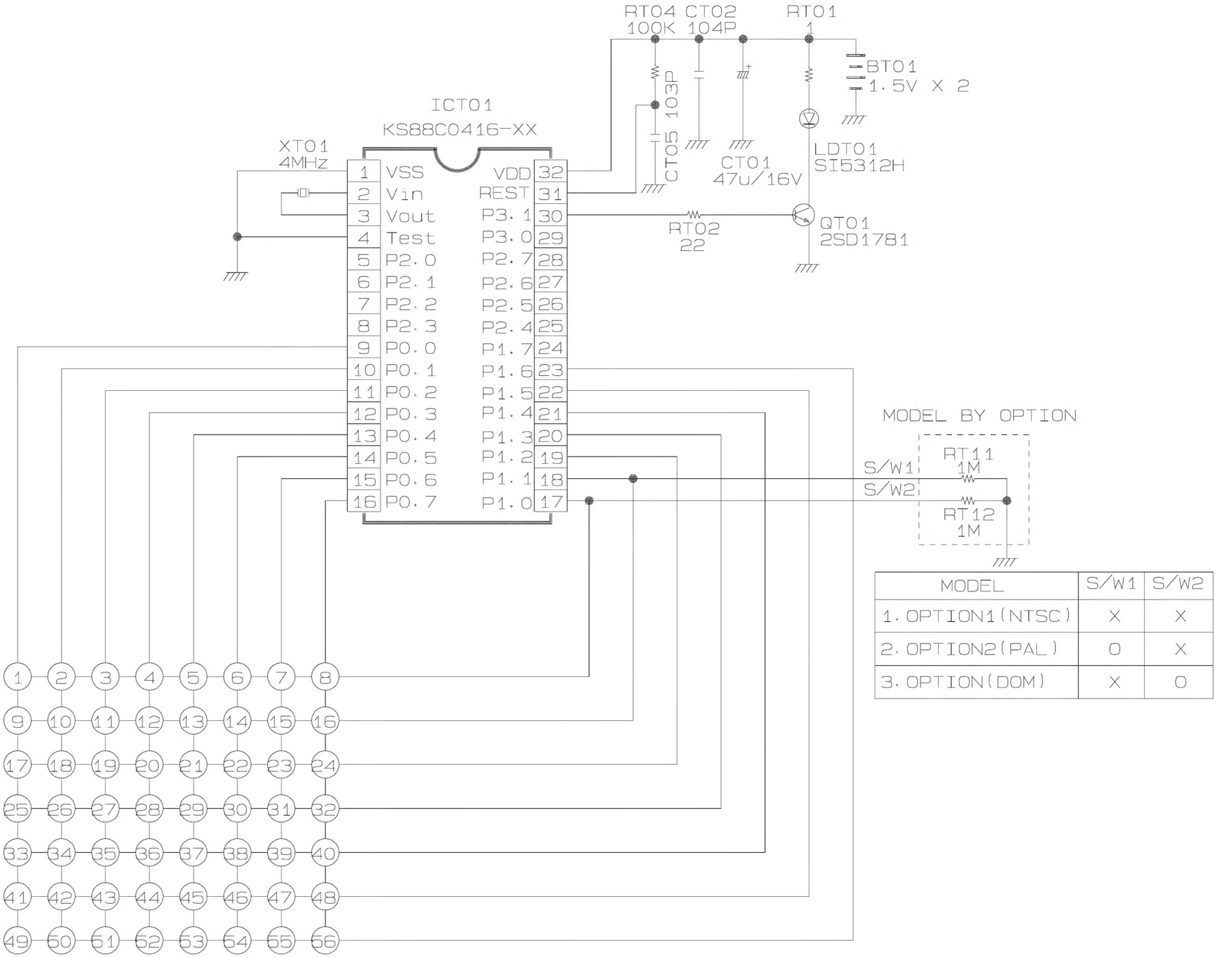

5VK
FR65
22K
FR66
22K
UP/DOWN 3
GND 2
UP/DOWN 1
FVOL
VOLUME
GNDK
5VK
FD1
GREEN
FR61
220
DVD
FD2
GREEN
FR62
220
VCR
AUX
FD3
GREEN
FR63
220
FQ1
KSR1003
FQ2
KSR1003
FQ3
KSR1003
GNDK
GNDK
GNDK
GNDK
5VK
KCN1
8P CONNECTOR M


STOP
FSW5
TACT2P
PLAY
FSW4
TACT2P
SKIP(R)
FSW1
TACT2P
SKIP(F)
FSW6
TACT2P
AUX
FSW8
TACT2P
VCR
FSW7
TACT2P
DVD
FSW9
TACT2P
KCN2
8P CONNECTOR M

13-17 Deck


TO P/F
CN6
CN5
T+
T-
F+
F-
AGND1
VA
VD
VB
VC
VF
RFSUM
VREF
VE
AGND2
AVCC2
LD
PD
AGND3
HA1-
HA1+
HA2-
HA2+
AGND4
AVCC4
SLED-
SLED+
HW-
HW+
HV-
HU+
HV+
HU-
U
V
W
TM+
TM-
CLSW
OPSW
LED
SW3
LD ON/OFF
DIP-3P
ON
OFF
DR1 360
DC2 104
DE2 47u/10V
DC1 104
DE1 47u/10V
DR3 180
SLED+
SLED-
DL1 121S
DC3 104
DR2 180
DR4 10K
DR5 10K
CLOSE
OPEN
DC4 223
DLED1 GREEN
SW1 CLOSE
SW2 OPEN
CN2
TO PICK-UP
CN3
TO MOTRO
CN1
TO SPINDLE
CN4
TO SLED

13-18 Remote Control



MODEL	S/W1	S/W2
1. OPTION1(NTSC)	X	X
2. OPTION2(PAL)	O	X
3. OPTION(DOM)	X	O

MEMO